

# HOME CINEMA

HIGH-PERFORMANCE SOUND & VISION

## Choice

ON TEST

Samsung HW-J650 'bar  
Sony projector  
Tannoy XT speakers  
Darbee processor  
Denon X6200W  
Bush 4K TV

# LET THERE BE LIGHT!

Philips' Ambilight 4K TV promises home cinema thrills

## Sony 2016

Slim screens with superior tech

## Budget battle!

Five HD projectors that won't break the bank

AIMING TO PLEASE

*The Hunger Games* series reaches its end on BD, p98

SONOS BEATER?  
Yamaha makes multiroom magic



## FILM & TV

- THE GOOD DINOSAUR
- PAN 3D
- SPECTRE
- BROOKLYN
- MR. ROBOT

**INSIDE** BUYERS' GUIDE → ANTHEM DOLBY ATMOS AV AMP → DYNAUDIO  
→ READER'S CINEMA ROOM → COLLECTING RIDLEY SCOTT → OPINION → MORE

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# HOME CINEMA Choice

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If you don't want to miss an issue



Sony HDR TVs, p24



# Welcome

Five years ago 3D was the Next Big Thing in home cinema. Now it's a technology that has not only been dropped by broadcasters, but is being phased out by TV manufacturers. Our cover star, Philips' 55PUS8601 screen, doesn't support the format; other brands are cutting the tech from their ranges. It makes for a curious situation. Hollywood still seems committed to releasing 3D films (I imagine every forthcoming *Star Wars* flick will show in stereoscopic flavour) and **many of us have a lot of 3D Blu-rays in our disc collections**. Yet we're getting to the point where you may upgrade your display and become unable to play those discs and get the same experience at home as you can at the multiplex. Should AV fans be worried?



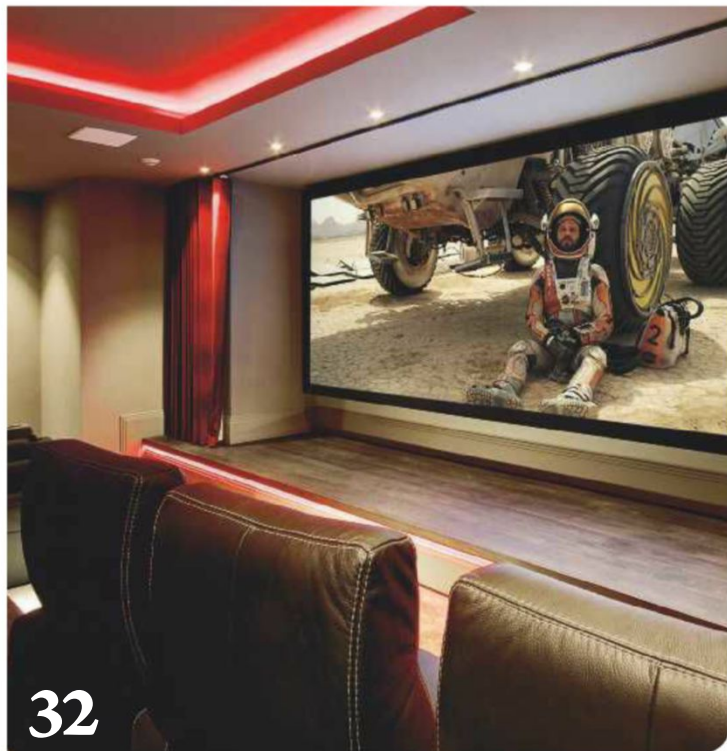
On another topic, some of you will notice that this issue we've refreshed the magazine, offering more news, more advice and a streamlined look. So tell us what you think!

*Mark Craven*  
Editor





# MENU



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**John Archer:**  
The UK's most experienced TV tester cut his teeth as an early HCC staffer



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## FEATURES

In-depth interviews and special reports. Starts... p20

### 20 Sound & Vision: Bristol Show '16

The hottest kit from the UK AV showcase

COVER STORY

### 24 Sony banks on thin 4K HDR

Hands-on with tech giant's 2016 lineup

### 28 American idols

Bringing the Criterion Collection to the UK

### 32 Two rooms = twice the fun

Film fun from the cinema to the bedroom

### 88 Certified: AV-Holic

Another HCC reader shares their AV setup

## SELECT

The place to look if you're planning to buy some new AV gear. Starts... p111

### 111 Gear guide

HCC's comprehensive Top 10s list only the very best home cinema kit money can buy

## BULLETIN

The place for hot products, trends and technology. Starts... p7

### 07 Some kind of Atmosphere

Anthem unveils Atmos/DTS:X AV receivers

### 08 Emit lowers the limit

Dynaudio's new entry-level speaker range

### 09 Analysts reveal AV shift

Multichannel audio down, Ultra HD TV up!

### 10 HDR TV has eco worries

Green groups warn of higher electricity bills

### 12 'Science up' your system

The Cinema Designer software lets anyone plan and spec a virtual home theatre

### 14 Man's best friend

Snoopy and Charlie Brown head to BD/DVD

### 16 Back of the 'net

Trailers and tech to check out on the web

### 17 An illuminating idea

Philips' eye-catching 65in AmbiLux screen

## REGULARS

Whether you want our opinions or your own, here's where to look. Starts... p77

### 77 Digital copy

Mark Craven gets to grips with his cables

### 78 Film fanatic

DC vs Marvel? Can't we all just get along?

### 80 In the mix

Hollywood's negative effect on Ultra HD BD

### 82 How to... Upgrade a PS4 HDD

Boost the storage capacity of your console

### 84 Feedback

Share your thoughts with other AV addicts

### 122 AV Avenger

What firmware gives, it can also take away

## COMPETITIONS

### 86 Great Blu-rays to be won!

*Bridge of Spies*, *Carol* and *The Hunger Games: Mockingjay – Part 2*





**46**  
'Able to bring excitement to both boisterous blockbusters and soft-spoken TV dramas'



**38**



**42**



**58**



**66**

## REVIEWS

With a focus on performance, these are in-depth tests you can trust... p37

### 38 Denon AVR-X6200W

High-end nine-channel AV receiver is a master of object-based audio formats

### 42 Sony VPL-HW65ES

It may only be Full HD, but this premium SXRD projector is still a true home cinema hero

### 46 Tannoy Revolution XT 5.0

Floorstanding 5.0 loudspeaker array leads a revolution in price vs performance

**COVER STORY**

### 51 Grouptest: The battle of the budget projectors

Five projectors that won't break the bank do battle in our grouptest. Find out which of the Acer V7500, BenQ W1110, Dell 4350, Epson EB-U04 and Optoma HD28DSE is the best for affordable bigscreen home entertainment

**COVER STORY**

### 58 Philips 55PUS8601

Innovative 55in 4K/Ultra HD TV with High Dynamic Range support, Ambilight and detachable speakers

### 62 Yamaha YSP-1600

Does this beam array soundbar really do away with the need for surround speakers?

### 64 Bush LE-58GCL

You really do get what you pay for with this budget-priced 58in 4K/Ultra HD TV

**COVER STORY**

### 66 Yamaha MusicCast

Impressively flexible multiroom audio system that embraces home cinema

### 70 Darbee Visual Presence DVP-5100CIE

System-boosting image processor, now in a more conventional full-size chassis

### 70 Maiden Audio ED-PH0N3S

Bring your daughter to the slaughter with these Iron Maiden-inspired on-ear headphones...

### 74 Samsung HW-J650

Stylish soundbar/subwoofer combo with hi-res audio talents

## PLAYBACK



The latest Blu-rays, DVDs and videogames reviewed and rated. Starts... p95

96 Spectre

97 Pan 3D

Black Mass

The Lobster

Maze Runner: The Scorch Trials

98 The Hunger Games: Mockingjay – Part 2 3D

100 Far Cry: Primal; Brooklyn; Carol; Steve Jobs

101 The Martian

102 Mr Robot: Season 1

"Doc"

Underground

Dr. Goldfoot: The Complete Collection

Wild Orchid

104 The Good Dinosaur

105 The Wonder Years: The Complete Series – Deluxe Edition; American Ultra; Frankenstein; Nina Forever; The Hallow

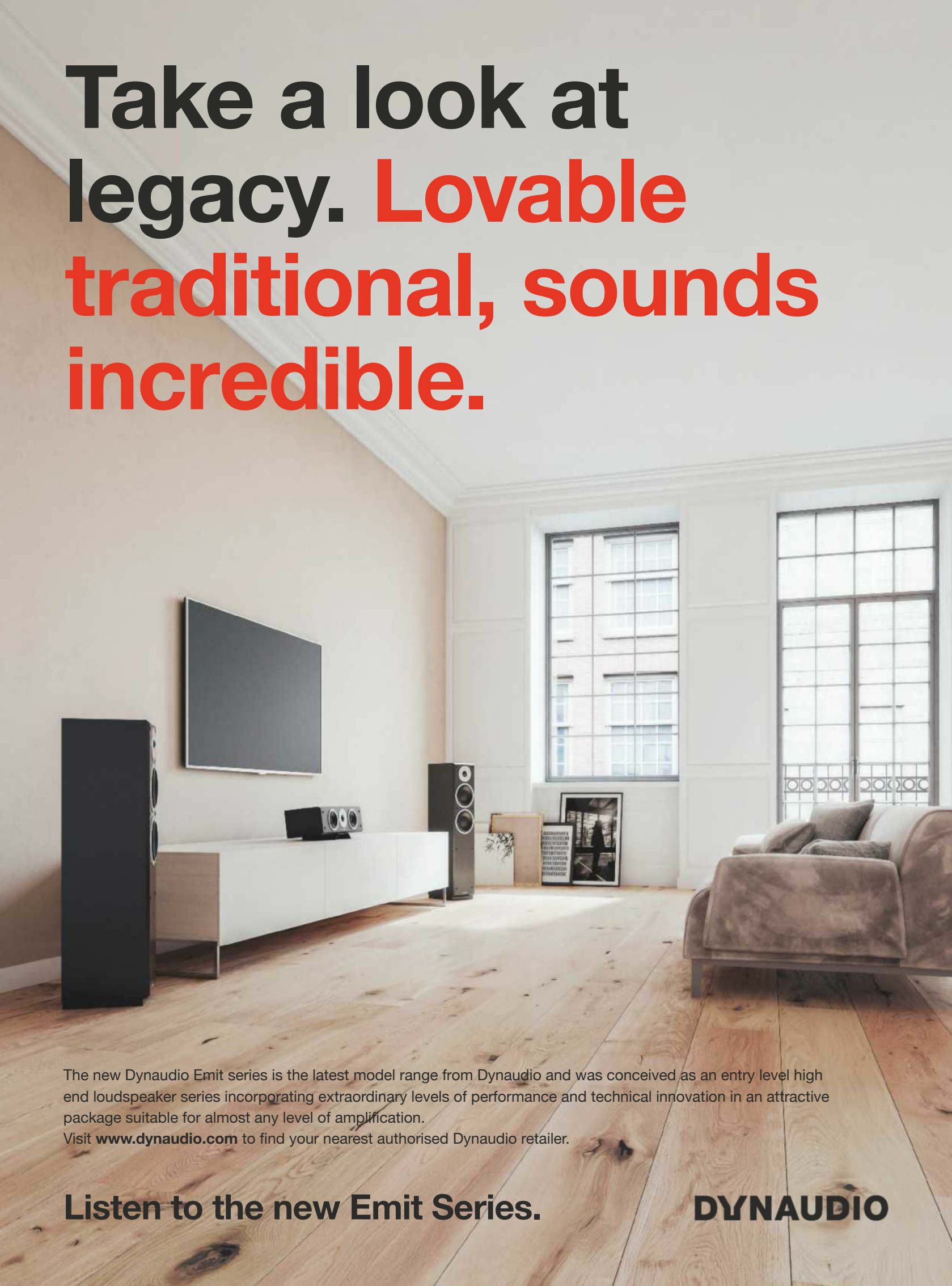
106 American Horror Project: Volume One Deep Red: 3-Disc Limited Edition

Audition

The Mutilator

108 **COLLECTING...** Ridley Scott  
10 of the visionary director's best on disc





# Take a look at legacy. **Lovable traditional, sounds incredible.**

The new Dynaudio Emit series is the latest model range from Dynaudio and was conceived as an entry level high end loudspeaker series incorporating extraordinary levels of performance and technical innovation in an attractive package suitable for almost any level of amplification.

Visit [www.dynaudio.com](http://www.dynaudio.com) to find your nearest authorised Dynaudio retailer.

**Listen to the new Emit Series.**

**DYNAUDIO**



# BULLETIN

→ **NEWS HIGHLIGHTS** DYNAUDIO Danish brand launches entry-level line **CINEMA DESIGNER** Innovative software aims to revolutionise system building **PHILIPS** AmbiLux TV **AT THE PLEX** Our pick of this month's cinema releases **NEWS X10** Hot stories in bite-sized chunks **THE PEANUTS MOVIE** Don 3D goggles to welcome Snoopy and Charlie Brown to BD **& MORE!**

## Some kind of Atmosphere

Anthem MRX 1120 → [www.anthemavs.co.uk](http://www.anthemavs.co.uk)



Anthem is bringing Dolby Atmos and DTS:X decoding to its MRX range of AV receivers with a pair of new models. Both the MRX 720 (£2,500) and 11-channel MRX 1120 (£4,000, pictured) use ARC (Anthem Room Correction) for automated speaker setup/EQ to get the best out of the next-gen sound formats. On the video side, HDMI 2.0a connectivity provides full support for Ultra HD Blu-ray. Also joining the MRX stable is a five-channel model (MRX 520, £1,500) that again features ARC but gives Atmos and DTS:X a swerve. Available to buy now.

### HCC ONLINE...

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# Emit lowers the limit

Dynaudio Emit → [www.dynaudio.com](http://www.dynaudio.com)



Danish speaker brand Dynaudio has launched an entry-level range featuring 'trickle-down' tech from some of its high-end constructions. The Emit family of speakers features two standmount models (and an optional stand, pictured), a floorstander and a centre channel, all armed with the company's traditional 1in soft dome tweeters and Magnesium Silicate Polymer (MSP) midbass drivers. Prices range from £425 for the Emit 15C centre speaker to £1,250 for a pair of the Emit 30 floorstanders. Head over to our Sound & Vision: Bristol Show report on p20 for some first impressions...



## Sony amp gets connected



Sony's new STR-DN1070 receiver is being billed as a feature-packed multiroom hub. This £400 7.2-channel

model ignores Atmos and DTS:X but caters for next-gen video courtesy of its HDR/HDCP 2.2-ready HDMI connectivity, and supports Sony's Wireless Surround system, whereby compatible multiroom speakers can be used as rear speakers. A new DSD-happy DAC allows the DN1070 to wear the brand's Hi-Res Audio badge. Spotify Connect and Google Cast are among streaming options. [www.sony.co.uk](http://www.sony.co.uk)

## One For All cuts the cable



Accessory specialist One For All is tackling cable woes with its new SV 1760 Wireless HD sender, priced

£200. This two-unit system add-on plugs into HDMI sockets at transmit and receive ends, sending Full HD and 3D video up to a claimed distance of 30m, with the 5GHz Wi-Fi band used in favour of the typically more-congested 2.4GHz. Both units can be powered via USB, so if a connected device offers that function, there's no need to find mains power.

[www.oneforall.co.uk](http://www.oneforall.co.uk)

# Analysts reveal AV shift

Multichannel audio down and vinyl up while bigscreen 4K TVs fare well

The home entertainment market is experiencing its biggest shift in a decade, according to analyst GfK. Speaking at the annual conference of UK hi-fi trade body The Clarity Alliance, it said the move from conventional AV separates to soundbars and multiroom is reshaping consumer electronics. 'Six years ago, the big story was home theatre, but now that has pretty much disappeared,' said GfK spokesman Nick Simon. 'Now 66 per cent of all home audio sales are connected audio systems, Bluetooth speakers, multiroom and soundbars.'

While the various AV and hi-fi manufacturers at the event appeared optimistic about the impact of 3D audio formats like Dolby Atmos and DTS:X on home theatre, it seems mainstream consumers have little awareness about them or what they offer.

On the plus side, Simon added that bigscreen viewing is booming. 'We're seeing a wonderfully fluid market emerging at the moment,' he told HCC. 'Large UHD televisions are selling particularly well.'

To better illustrate the changing landscape, Google's Richard Hartigan compared today's most searched CE terms with those from a decade ago. Ten years back, typical searches comprised 'Sony LCD TV', 'Toshiba LCD', 'widescreen TV', 'Toshiba DVD' and 'Panasonic LCD', with a smattering of Philips references. Today a comparative cloud looks far more congested: '4K' and 'HD TV' rank side-by-side, with 'Samsung LED TV' the main brand TV search term. Retail chains battle for prominence with the remaining CE marques for traffic.

2015 was a gruelling year for retailers it seems, with the market down in both units and value. According to figures, AVR sales dropped 11 per cent



in volume and nine per cent in value. Thankfully there's enough life left in the high-end (£1,000+) to keep brands interested, but this erosion shows why the category isn't attracting the love that it once did.

While the overall volume of AV/hi-fi separates has plummeted, value remains high, and it's booming in some places. Territories enjoying higher-than-average growth include Sweden, Germany and Ireland.

And in news that will delight compulsive collectors, GfK revealed that physical media is staging something of a comeback: 'CD is still getting a good airing. CD sales were only down four per cent in 2015, while vinyl was up 64 per cent,' we were told.

Unsurprisingly, vinyl was big news at the Clarity gig, but there's some devil in the detail. Figures reveal around 2m turntables sold in the UK last year, but 58 per cent were low-cost all-in-one players shifted through high-street fashion outlets.

Still, this didn't prevent Clarity from announcing a consumer show for platter fans. Called Stylus, it will run April 23/24 at the Park Inn Hotel, Heathrow, and will cover all aspects of the vinyl boom, from record collecting to gear. 'This isn't a traditional hi-fi show,' promised Clarity's Phil Hansen. 'We want to attract a wider crowd.'



Soundbars are replacing traditional home theatre products



## Playlist...

Team HCC spins up its disc picks of the month

### Crimson Peak (All-region BD)

Even if you can't make the most of this Gothic tale's DTS:X mix, there's still plenty to love, including scarily good visuals and an array of in-depth extras.



### The Program (Region B BD)



Ben Foster is in electrifying form as Lance Armstrong in this gripping drama about the disgraced cyclist. The BD itself is wheely good, too...

### Togetherness: Season 1 (All-region BD)



The Duplass brothers strike the ideal balance between drama and (painfully funny) comedy in their debut TV series. More please...

### Sicario (Region B BD)



An intelligent and hard-hitting thriller packing an equally powerful Dolby Atmos mix.

### Lost Girl: Season 5 (R2 DVD)



It's time to bid a fond farewell to Bo and chums as the supernatural series makes its final bow on DVD.



**At the 'plex...**

Heading out to see a flick?  
Catch these this month

**10 Cloverfield Lane**

**March 18:** The plot of this spin-off from J.J. Abrams' 2008 monster flick *Cloverfield* – and produced by the man himself – remains a mystery, but expect it to offer claustrophobic thrills.

**Batman v Superman: Dawn of Justice**

**March 25:** The first 2016 movie to have real blockbuster aspirations, Warner Bros' popcorn-muncher pits the Dark Knight against the Man of Steel and kicks off the latest phase in the 'DC Cinematic Universe'.

**The Huntsman: Winter's War**

**April 8:** Prequel/sequel to 2012's fantasy smash *Snow White and the Huntsman*. Snow White herself is absent leaving Chris 'Thor' Hemsworth to top the bill and Emily Blunt to join the SFX party as Ice Queen Freya.

# HDR TV has eco worries

Electric bills set to rise with next-gen displays, warn green groups

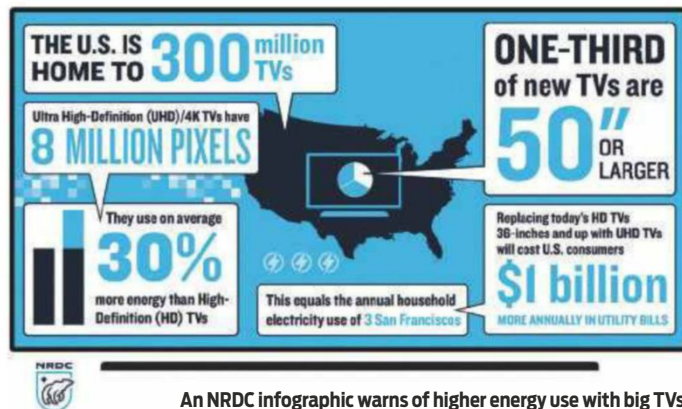
The European Environment Bureau (EEB) based in Brussels, and the US government's Natural Resources Defense Council (NRDC), are now both warning that UHD 4K televisions use an average 30 per cent more energy than HD sets.

Furthermore, TVs offering HDR consume twice as much power as basic 4K sets, and some HDR sets may gobble ten times the peak power.

This will no doubt mean higher electricity bills and the possibility that some HDR sets may be being banned under EU 'green' regulations. 'HDR TVs capable of 1,000 nits (or more) peak luminance could raise total peak power consumption... to a maximum of roughly 350 to 500W for 55in models,' says the NRDC in a report called *The Big Picture*. It also warns that, in the US, UHD TVs 'could add \$1 bn to viewers' annual electric bills.' By way of comparison, the peak consumption of a current Samsung HU8200 (a non-HDR screen) is rated at 242W.

The group and its partner, Ecos Research, performed power use measurements on 21 screens that they said represented a cross-section of 2014 and 2015 models. The 55in size was chosen 'because [the screens] are the most prevalent... and represent the best value among UHD televisions on the market today.'

Meanwhile, the EEB has suggested consumers take running costs into account when shortlisting TVs. 'Bargain hunters need to keep an even closer



An NRDC infographic warns of higher energy use with big TVs

eye on energy costs, not just price tags,' says a spokesman.

**Eye strain?**

Power greed may not be the only reason for curbing HDR excesses. Some HDR demonstrations have been unpleasant to watch, with

searing highlights that have got engineers joking about the need to wear HDR sunglasses. UK TV stations already have to broadcast health warnings when there is flash photography or strobe lighting which can trigger epilepsy or migraine attacks. The same could happen for HDR TV.

Speaking at an industry conference on UHD held in London by SES Astra, a UK broadcast engineer confided: 'You can't do useful research because it would involve deliberately pushing people into epileptic fits, and perhaps killing them.'

Added Richard Salmon, Lead Research Engineer, BBC R&D: 'We live in a cloudy part of the world. We aren't used to bright light. If you live in California you are used to Californian sunshine so want a brighter screen. Dolby has a different business model.'

Another warning on the HDR front concerns customer confusion, and came from Jamie Hindhaugh, Head of BT's Ultra HD Sports channel at a recent panel discussion organised by MESA Europe: 'HDR has the potential to derail what's currently showing as a really good take-up of 4K. The consumer is getting confused over whether it's the right time to buy a TV.'

## PMC centres in on the facts

Speaker brand opens up hi-fi range to AV enthusiasts

PMC's new centre channel speakers use Advanced Transmission Line tech



PMC has added a pair of centre channel enclosures to its fact range of floorstander/standmount speakers, which will help put the lineup on the radar of home cinema shoppers.

The two-way fact.5c and three-way fact.10c are priced at £2,125 and £5,500 respectively. The former is designed to be partnered with the fact.3 (standmount) or fact.8 (floorstander) models. The latter is a match for the flagship fact.12.

Both enclosures feature ATL (Advanced Transmission Line)

technology, here tuned for 'the ultimate in vocal clarity and projection'. The drivers used, including the dual 5.5in bass units, are the same as elsewhere in the fact series, although the soft dome tweeter has been revamped with a smaller neodymium magnet and faceplate in order to keep cabinet dimensions compact. The more expensive centre channel adds a 2in mid-range driver.

As with the other speakers in the range, the fact.5c and fact.10c offer rear switches to adjust bass and treble response. Available finishes are White Silk, Rich Walnut, Graphite and Tiger Ebony. [www.pmc-speakers.com](http://www.pmc-speakers.com)





Blue Ice White, Kent Engineering and Foundry Edition



*'This system is British surround high-fidelity at the utter state-of-the-art. And it's easily worthy of its Reference name.'*

KEF REFERENCE 7.2 System,  
Home Cinema Choice, March 2016

## THE REFERENCE

Once in a generation we design and hand build loudspeakers of such stunning quality they set the standard by which all others are measured for years to come. For perfectionists who demand uncompromisingly accurate sound, capturing the full emotional range, depth and detail of the original performance, THE REFERENCE delivers an experience without equal.



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## Extras...

Small items that could make a big impression...

### The James Bond Archives

(£45, Taschen)



Clocking in at over 620 pages, this exquisite hardback is sure to leave fans shaken and stirred. Packed with interviews and a stunning array of production art and photos, this mammoth tome charts the entire history of Bond on the bigscreen, from *Dr. No* to *Spectre* via 'unofficial' outings *Casino Royale* and *Never Say Never Again*.

### Batman Returns Mez-Itz

(£20, Mezco Toyz)



Mezco's range of three-inch vinyl superheroes pays homage to Tim Burton's 1992 comic book sequel this Spring. The *über*-cute versions of the Caped Crusader, Penguin (with a removable top hat) and Catwoman each have five points of articulation and come housed in a 'collector-friendly' window box.

### The X-Files FAQ

(£15, Applause)



Written by John Kenneth Muir (of the great *Reflections on Cult Movies and Classic TV* blog) and timed to coincide with

the recent TV miniseries, *The X-Files FAQ* goes far beyond the typical episode guide, exploring the series within its historical context while offering up interesting (and surprising) new perspectives on classic episodes. The truth is in here!

# 'Science up' your system

Cinema Designer lets anyone plan and spec a virtual home theatre

The science of home cinema design is complex at the best of times. Calculating the relationship between room acoustics, speaker dispersion, screen gain and projection is notoriously difficult to master and usually left to high-end installers to work out. But now an entire room can be automatically designed, specified and rendered thanks to an ingenious new software package called *The Cinema Designer*.

The tech allows enthusiasts to input the basics of their proposed project and get an accurate specification and architectural plan in minutes, including 3D CAD placement drawings and photorealistic renders.

The Cinema Designer is the brainchild of Guy Singleton, an award-winning UK cinema designer and CEDIA/ISF instructor. 'Initially I wanted a tool to assist me in my own cinema and media room designs, to make them more efficient,' he told HCC. 'Even for an experienced cinema professional, a proper design can take days and can be a complicated technical process.'

'Computing the calculations, creating CAD drawings, correct product selection, writing a design report and, finally, producing the visual renders are processes that require a lot of manual design time. I felt that I needed a tool to make these processes quicker...'

Singleton told us that he came up with a solution while teaching an audio course for trade organisation CEDIA. 'I realised that such a tool would be powerful for the industry as a whole. Not only would it provide an excellent resource for cinema designers around the world, it would ensure that the highest standards are consistently applied.'

## Ease of use

HCC had a hands-on with the new software and was astonished at how comprehensive yet straightforward it is to use. All you need do is enter



**Guy Singleton:** 'Design visualisations are a really good way to illustrate how a room could be finished'

a few basic details about your room, the speaker deployment and certain preferred criteria, such as whether it should accommodate

object-based (Dolby Atmos/DTS:X) or regular multichannel audio formats. The package then completes the design process in a few minutes.

The software includes product data for several manufacturers (including Bowers & Wilkins, Meridian Audio, Classé, Procella Audio and Datasat) and with more to come, including projector screen manufacturers, so it can also produce a hardware wish-list for the build.

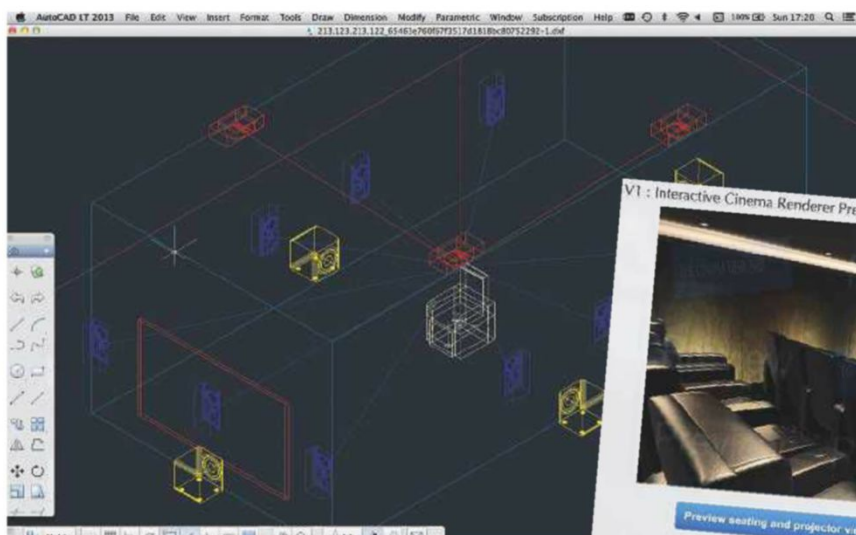
'For example, if a designer selects a certain loudspeaker manufacturer, the loudspeakers drawn in the CAD file will be the actual loudspeaker and the design report will include the product spec data,' explains Singleton.

## Cosmetic changes

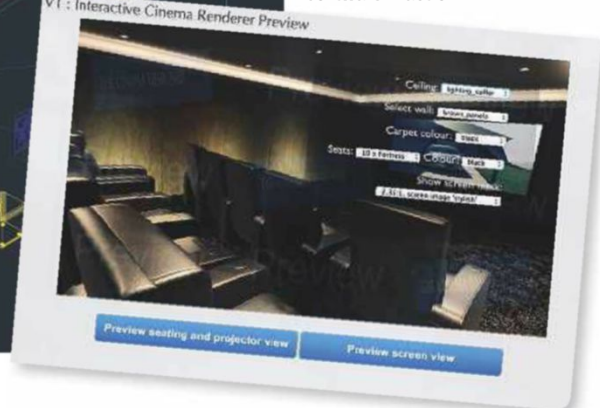
The Cinema Designer isn't just for sound and vision. You can also use the software to experiment with room cosmetics. 'The design visualisations are a good way to be able to illustrate how a room could be finished,' believes Singleton. 'The Cinema Designer can illustrate the room in a variety of different ways, from various lighting ideas to the colour of the seating. And, again, this can be rerun to show a variety of options.'

While the tool has been designed primarily for use by professional installers who would typically take out a monthly subscription and have the option of customizing the plans with their own company logo, it is also available to AV enthusiasts who can use it on a pay-per-project basis.

For more information about the software visit [www.thecinemadesigner.com](http://www.thecinemadesigner.com).



The Cinema Designer software in action





## This month's top 10 news stories in handy, bite-sized chunks...



**1 Ultra HD deck arrives in April**  
Panasonic has confirmed that its debut Ultra HD Blu-ray player will hit the UK in April. The THX-certified DMP-UB900 will set you back around £600, and will come bundled with Ultra HD Blu-rays of *Mad Max: Fury Road* and *San Andreas* (via a tie-in with Warner Bros) for your 4K viewing pleasure. Features include support for HDR, 4K/60p playback and 7.1-channel analogue outputs.

**2 Hobbits beat dinosaurs**  
The Official Charts Company has released a list of 2015's most successful franchise releases on DVD and Blu-ray in the UK. *The Hobbit* came out on top with sales of 1.5m just pipping *Jurassic World*'s 1.43m sales.

**3 Fox signs deal with eOne**  
20th Century Fox has signed a deal that will see it take over sales and distribution of Entertainment One's DVD and Blu-ray releases in the UK. Extending the arrangement that already exists in Australia and Spain, the new deal takes in the UK and Benelux. As yet there's no word on what impact this will have on Entertainment One's staff and potential job losses.

**4 B&O gets Smarter**  
Bang & Olufsen has launched an open, cloud-based Smart home architecture. Unveiled at ISE 2016, BeoLink SmartHome allows system professionals to connect B&O kit with other connected products, including lights, curtains and alarm systems. It also offers full integration with control systems from the likes of Crestron, Control4 and Savant.

**5 Fallen Idol exchange**  
Eagle-eyed fans who picked up Carol Reed's 1948 classic *The Fallen Idol* on Blu-ray will have noticed some rather distracting vertical stretching in the image. Well, the good news is that StudioCanal is offering an exchange service for anyone with an affected disc. Simply send your full details to [info@studiocanal.co.uk](mailto:info@studiocanal.co.uk) and replacement discs will be sent out as soon as they're available.

**6 Sharp deal on hold**  
Just when it looked like Foxconn's \$6bn takeover bid for Sharp was a done deal, it's all been put on hold. Problems arose when Foxconn was given a list of previously undeclared potential financial liabilities (totalling around \$3.1bn) that could come up in the future. While Foxconn is said to be keen for the takeover to still go ahead, it has extended the deadline.

**7 Sky+ gets new updates**  
Sky claims that binge-watching is easier than ever before thanks to its latest Sky+ software update. New features include the ability to move a full box set into your planner, an onscreen prompt that will play the next episode immediately if you've downloaded a full series, and a reorganised Watchlist that now orders movies by the date they expire from Sky Movies.

**8 3D to be phased out?**  
Korean news outlet ET News claims that both Samsung and LG are in the process of phasing out 3D from their TVs. According to the report, Samsung hasn't ordered any new supplies of 3D glasses for its TVs this year, while an LG spokesman says that only 20 per cent of its 2016 TVs will support 3D, as opposed to 40 per cent last year.

**9 Nobody does it better...**  
While it may never achieve the same extraordinary sales as *Skyfall* (which sold beyond the usual Bond audience), the latest 007 film has got off to a strong start in the UK, selling around 576,000 units in its first few days on sale. And across its first retail week *Spectre* is estimated to have outsold the rest of the top 100 combined!

**10 Superhuman ticket**  
Regal Cinemas in the US has teamed up with Warner Bros. to offer an Ultimate Ticket for this month's superhero smash *Batman v. Superman: Dawn of Justice*. Priced at \$100 each and limited to just 1,000, these special tickets allow their owners to watch the film once-per-day, as many times as they want, for the entire run of the film.



US super-fans can get an Ultimate ticket

## Premiere...

What's happening in the world of TV and films...

## Back to the 'pool



With X-Men spin-off *Deadpool* having exceeded all expectations at the global box office (taking almost \$265 million in its opening weekend alone), it comes as no surprise to anyone to learn that Fox is fast-tracking a sequel.

## Monster stars

Johnny Depp is the latest big name linked to Universal's upcoming slate of classic monster movie reboots, with the actor being pursued to star in *The Invisible Man*. Tom Cruise has already signed on to *The Mummy* and Angelina Jolie is said to be eyeing up *The Bride of Frankenstein*.

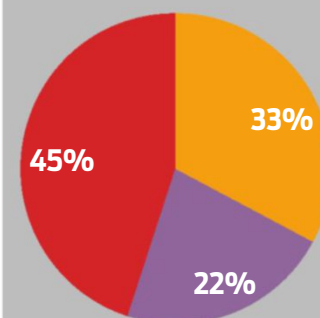
## We're getting too old for this s\*\*t...

It looks like *Lethal Weapon* will be the next 1980s flick to get a TV makeover. *Charles Angels* director McG will reportedly helm the pilot for the proposed series, with Damon Wayans, Sr. signed on to play Roger Murtaugh. There's no word yet on who will be taking on the role of Martin Riggs.

## We asked...

### Do you plan on buying an Ultra HD Blu-ray player this year?

■ Yes! ■ No! ■ Maybe, but only if the studios release some 4K discs that I actually want to watch...



Results from [www.homecinemachoice.com](http://www.homecinemachoice.com)  
Go online for more polling action

# Man's best friend

Snoopy and Charlie Brown: The Peanuts Movie → Twentieth Century Fox Home Entertainment → Digital HD, 3D Blu-ray, Blu-ray & DVD

The team behind the popular *Ice Age* films hit box office gold yet again with this gorgeous CG update of Charles Schulz's beloved comic strip. Following the adventures of Charlie Brown, his pet dog Snoopy (and his World War One flying ace alter ego) and the rest of the gang, *Snoopy and Charlie Brown...* lands on Digital HD on May 13, followed by 3D Blu-ray, BD and DVD on May 30. In addition to spectacular AV credentials, the HD platters promise six all-new *Snoopy Snippets* 'toons and a documentary about Schulz and the history of his most famous creation.





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## Face to Face

Topics of discussion on the HCC Facebook page

### Pre-ordering an Ultra HD Blu-ray player...



My target this year is to get a 4K projector and Sky Q – the 4K BD might have to wait 'til 2017.

Moninder Sahota

Am holding out for the new 4K Oppo players to arrive...

Paul Lissemore

It depends on price and what films will be available at launch. 4K *Star Wars Episode: VII*, anyone?

Richard Chapman

### What you're watching on your home cinema...



Now I've got the Extended Editions *Hobbit* BD boxset, it'll be *The Desolation of Smaug*, having watched *An Unexpected Journey* last week and hoping to watch *The Battle of The Five Armies* tomorrow night!

Steve Old

*Snow Girl* and *The Dark Crystal* – 3D and Dolby Atmos.

Adrian Naunton

*7th Voyage of Sinbad*, *Golden Voyage of Sinbad*, *Sinbad and the Eye of the Tiger*, *Jason and the Argonauts* and *A Bay of Blood*. Oh, and *The Fly* from 1958.

Alan Hoare

We've been ramping up the drug war tension with *Sicario* on BD. *Home Cinema Choice*



*Sicario*? In DTS:X? Oh they took it off the disc. I've watched *First Blood* and *Rambo: First Blood Part II*.

Mike Wadkins

I left the comfort of my own home to go to the cinema.

The film? *Deadpool*!

Terence Stamp



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# Back of the 'net

Trailers, technology and more to check out on the web



### Star Wars geek fest

This 45-minute spoiler-packed analysis of *Star Wars: The Force Awakens* by New Rockstar covers everything from its nods to *Saving Private Ryan* and rumoured deleted scenes to why Kylo Ren dresses like the Sheriff of Nottingham. One for devotees while they wait for the eventual Blu-ray release.

[youtu.be/DgIBQf3U5Xs](https://youtu.be/DgIBQf3U5Xs)



### 007 heaven

How many baddies has super-spy James Bond dispatched? This slick, annotated video from Auralnauts keeps a tally (and tots up his macabre puns) all the way from *Dr. No* to *Skyfall*. *Spectre* (see p96 for our Blu-ray review) will have added a few more, though.

[youtu.be/QQa\\_4biNKWU](https://youtu.be/QQa_4biNKWU)



### Precious metals

Monitor Audio's newly-launched Platinum Series II speakers promise a high-end performance to match their price tags. Here the Brit company's audio boffins talk you through the research and development process of the Platinum's tweeter, mid-range and bass drivers.

[youtu.be/24vv7fsA3NY](https://youtu.be/24vv7fsA3NY)



### Bourne is back!

The latest instalment in the Matt Damon espionage franchise arrives in cinemas on July 29 and now finally has a title (*Jason Bourne*) and a teaser trailer. As expected, there's bare-knuckle fighting and car-chasing aplenty, including a madcap dash down the Las Vegas Strip.

[youtu.be/\\_gBnmKOixDM](https://youtu.be/_gBnmKOixDM)

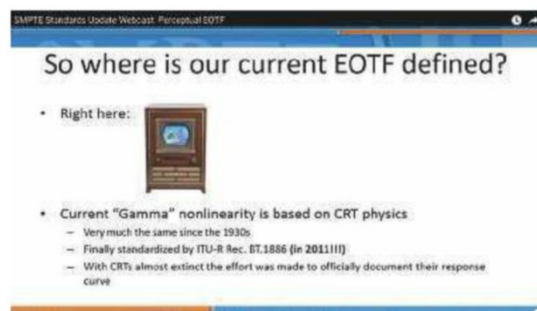


TOP PICK

### Highly illogical

Back in 1981, *Star Trek* actor Leonard Nimoy topped up his pay packet by hosting this intro to LaserDisc in association with Magnavision – even describing the burgeoning tech as 'a record player that produces beautiful sound and pictures through my TV.' AV has never been so cool.

[youtu.be/s4pBk3-fduU](https://youtu.be/s4pBk3-fduU)



### Doors of perception

'How dark is black?' and 'How bright is white?' – just two of the technical issues discussed in this hour-long webcast from the The Society of Motion Picture and Television Engineers (SMPTE) that focuses on the need for a new EOTF (Electro-Optical Transfer Function) in the HDR era.

[youtu.be/QLBPUN\\_S-ms](https://youtu.be/QLBPUN_S-ms)



# An illuminating idea

Philips 65PUS8601 → [www.tpvision.com](http://www.tpvision.com)

With its eye-catching AmbiLux technology (where nine rear-mounted pico projectors throw a facsimile of the onscreen image onto the wall behind), Philips top-range 65in 8901 TV was a star of September's IFA show. Now the brand has finally confirmed this 4K/HDR flatscreen will go on sale in the UK shortly (although pricing is TBA). Additional features include HDR upconversion of standard dynamic range sources, Amazon 4K streaming and Android smarts.





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# Sound & Vision: Bristol Show 2016

From high-end Atmos demos to new subwoofers and valve amp-powered media hubs, **Mark Craven** and **Ed Selley** report on the top stories coming out of the UK AV show

**THIS ANNUAL HI-FI** and home cinema show is now in its 29th year. Once, attendees would have been wowed by CD players and Pro-Logic processors; in 2016 it's more about streaming tech and Dolby Atmos systems. Manufacturers from the UK, Europe and beyond took up residence in Bristol's Marriot Hotel to unveil the wrappings off new kit, serve up delectable demos and gossip about all things AV, and HCC – as usual – was there too. Here we pick our Bristol Show 2016 highlights.

## Acoustic Energy

A brand that has been a bit quiet of late grabbed a prime location (right near the entrance) to showcase its new soundbar and 2.1 solutions, aimed clearly at the more affordable end of the market. This latest generation of the Aego product line offers a single soundbar-type speaker (or a pair of satellites) at a very reasonable £200. The soundbar (right) still functions as a stereo speaker and can be wall-mounted for convenience – the subwoofer unit provides power and signal, as well as filling in the low-end response. Sources are an analogue input on a 3.5mm connection,



As usual, queues formed early outside Bristol's Marriot Hotel

Looking for a spare seat in Arcam's Atmos demo? Good luck...



as well as an optical input and aptX-capable Bluetooth connection.

## Arcam

For home cinema fans, a visit to Arcam's room was essential. Every 30 minutes, the company treated a rapt crowd to a high-performance Dolby Atmos demonstration, using its AVR850 and additional power amps, KEF's Reference speakers in a 7.2.4 array – the same setup reviewed in our last issue – and an Epson EH-LS10000 projector.

Arcam's genial technical whizz Andy Moore talked through the basics of Atmos (using a Rubik's Cube as a visual aid...) and the Dirac Live EQ on the Arcam receiver, before unleashing a series of test clips, beginning with a live choral recording and ending with a Boeing 747 take-off and the opening scene from *Mad Max: Fury Road*. A simple on/off Dirac comparison proved the uncanny additional clarity the EQ system provides. The room was rightly packed whenever we looked in, and scooped a Best Demo award from the Clarity Alliance.

## Cabasse

If the Dirac system from Arcam appeals but you are a little short on cash, Cabasse was demonstrating its



affordable take on the same concept. The new Stream Amp comes pre-loaded with the measurement characteristics of a number of Cabasse speakers. This means that when partnered with the new Surf standmount, as it was at the show, you can input this information and the placement of the speakers and the amp makes corrections to suit. For a system with an all-up cost of £900 and an unpromising location for the speakers, the performance hard to fault.

## Canton

Two rooms were booked by the German audio firm – one to house its DM range of soundbases, the other its new Reference K line of speakers. The latter look like a mouthwatering addition to the company's floorstanding stable, topped by the 134kg 1K flagship, which will sell for around £17,000-per-pair. This towering tower speaker uses a brace of 12in bass drivers, a 7in midrange and a 1in aluminium tweeter, and claims a frequency response all the way down to 18Hz. It's joined in the Reference K range by less potent/somewhat more affordable options, including the 9K standmount speaker and 50K centre channel. 'Developing loudspeakers is like living in a monastery,' says the firm, cryptically.

## Dynaudio

In its plush Dynaudio Lounge, the speaker marque alternated between demo'ing its Contour LE and new Emit entry-level speakers (see p8). We made sure to grab an earful of the latter, running in straight stereo and propelled by a rackful of Naim Audio hi-fi gear. Giving airings of London Grammar's *Caught in the Middle* and Muse's *Madness*, the M20 standmounts certainly appear a decent proposition, giving body to the crescendoic ending of the latter and the breathy vocalisations of the former.

Dynaudio's affable spokesman Roland Hoffman was happy to admit the Emit hits its low-for-the-brand price point by skimping on design niceties. 'These use similar driver technology to our more expensive models. We can save money on finish – for instance, by not using high gloss.'

## Epson

In a darkened room, projector specialist Epson was firing its EH-LS10000 LED and 4K uprezzing projector onto a Draper screen. Curiously, it was using the same demo movie (*Need for Speed*) as last year. Sales of the high-ticket beamer are apparently

booming, thanks to its solid links with independent AV retailers. When not dazzling show-goers with car-chase capers, Epson was also illustrating the differences in projector screens, opening the curtains to show how Draper's grey TecVision material reflects ambient light to retain contrast.

## JL Audio

The UK distributors of this famed US subwoofer brand continue to bring low-frequency fun to the Bristol Show, this year unveiling some new bass-makers that look ripe for home cinema integration. In addition to second-generation versions of the Fathom range (with new driver suspensions and improved amplifier stages), JL Audio is introducing the smaller Dominion subs, which feature 8in or 10in

drivers, and come in under £1,000.

## JVC

JVC brought along two of its current projector line (the DLA-X5000 and X7000), running demos to illustrate the differences between SDR and HDR and the potency of 4K eShift. The former demo, in particular, caught the eye. JVC's SDR/HDR reel is one of the more subtle showcases we've seen, with clear differences detectable in shadow/light detail (a cloudy sky, for instance, offers much more texture and picture information) but lacking in out-and-out punch compared to LED and OLED TVs.

Technical Manager Mike Edwards talked visitors through the HDR premise, explaining that 'we've been looking too much for 4K detail rather than the overall picture.' He also told *HCC* that the home cinema business for JVC is motoring after its brief hiatus in 2014/15: 'We're having to work hard to keep up with orders.'

As for new products further down the line, we were told, typically, to 'watch this space...' Edwards did suggest, however, that JVC would be more likely to aim higher up the projector market than lower, leaving the likes of Epson and BenQ to battle it out below £3,000. 'Our brand has been built on quality,' he iterated.

## Mission

It wasn't all high-end hi-fi on display – Mission's suite gave pride of place to its newly-released LX series. Coming in at £200-per-pair, the two-way LX-2 standmounts will probably sell like hotcakes. Also in the immediate LX family is a floorstanding speaker (LX-3, £400 per pair); further models will launch later in the year, and will include a centre channel.

## Monitor Audio

Monitor Audio took a room on the Marriot Hotel's second floor to show off the impactful multi-



**Top: Mission's new LX-2 affordable standmount speaker**  
**Above: Canton flaunted its award-winning DM soundbase range**

**Grado partnered its headphones with Chord Electronics' Hugo TT DAC/amp**



**Monitor Audio's Dean Hartley hosted an invite-only demo of the PL500 II speaker**

**JL Audio is bringing both high-end Fathom v2 and more affordable Dominion subs to the UK**





**MQA: about to hit Pioneer's XDP100R portable hi-res player**

channel prowess of its Bronze 5 AV package, but the real story was by invitation only up on Level 10. Here, the brand's Technical Director, Dean Hartley, was demonstrating the massive new PL500 II speaker from the Platinum II range, which had previously been unveiled at CES. This no-holds barred assault on the high-end features four 8in LF drivers, two 4in midrange units and new ribbon tweeter. 'The original Platinum came in 2007,' revealed Hartley. 'Since then R&D has grown, with new modelling techniques. So for Platinum II we've started from afresh, rather than just retweaking. We've drilled down to really the smallest details, such as black-coated voice coils to wick as much heat away as possible.' In the two-channel demo it sounded sublime, and is yours for £15,000. As the Platinum II stable features both centre speakers and subwoofer, we're looking forward to giving it a multichannel spin.

## Pioneer

HCC dutifully rocked up to Pioneer's lounge hoping to catch an ear of some 3D audio and maybe bathe in the majesty of one of its elderly Kuro plasmas, so was a little disappointed to find the company jettisoning its AV side for once and focusing attention on its MQA-compatible portable media player. Brand ambassador Geoff Loveday enthused that MQA (the nascent hi-res format that aims to offer master-quality audio at streamable file sizes) has the 'potential to revolutionise things', and that the firmware for the XDP100R player will arrive in March. Loveday also said a separate firmware update has launched to boost the headroom on the player, something that we found wanting when we took a look at it in HCC #256.

## Q Acoustics

Never ones for underselling itself, Q Acoustics was busy demonstrating the 'World's best soundbar', which did raise an eyebrow or two on account of it not being a soundbar at all. Rather, the M7000 2.1 system combines a pair of the well-regarded 7000 Series satellites and the subwoofer from the same range with an all-new integrated Class D amplifier and DAC, dubbed the Q AVA. This 2 x 50W hub packs a pair of optical inputs, making it a flexible option for those with TV and separate audio gear, plus an analogue connection and aptX Bluetooth. While the £800 system isn't in any way, shape or

**Q Acoustics debuted its M7000 2.1 system/soundbar killer**



**Where old and new collide: Quad's valve amp/USB and digital audio hub**

**Ruark's R7 table speaker, sporting a limited edition graffiti design**



**REL has retooled its S Series to include Super High Output (SHO) models**

**Wharfedale has given its Diamond speakers an Active polish...**

form a soundbar, it certainly offers useful functionality (including a Movie EQ preset that rolls off high frequencies) and the widened soundfield is an obvious benefit.

## Quad

If there is a category of 'things that aren't soundbars but act a bit like them', mention should also be made of the Quad VA One, from parent corp IAG. This compact integrated valve amplifier uses a quartet of EL84 valves and puts out a princely 12W of power into 8 ohms. As well as its analogue input, the Quad features optical, coaxial and USB connectivity, meaning it's able to function as an audiophile media mogul if the fancy takes you. Given that Quad knows a thing or two about valve amplifiers, this could be a very good product if you favour the finer things in life.

## REL

Yet again REL was showcasing its 212SE sub, partnering a pair of the quad-driver woofers with some imposing Harbeth Super HL5 speakers for a bass-rich stereo experience. The effect of the extra LF on traditional two-channel recordings was markedly apparent – UK sales manager James Edwards suggested that all it takes to convince sceptical hi-fi enthusiasts is a simple A/B demo – but we'd have loved to hear the 212SE's let loose with a movie soundmix. Also in an adjacent room were a bevy of new models, including the S/3 and S/5 SHO (Super High Output) woofers, which claim greater grunt and speed than their predecessors courtesy of new driver construction.

## Wharfedale

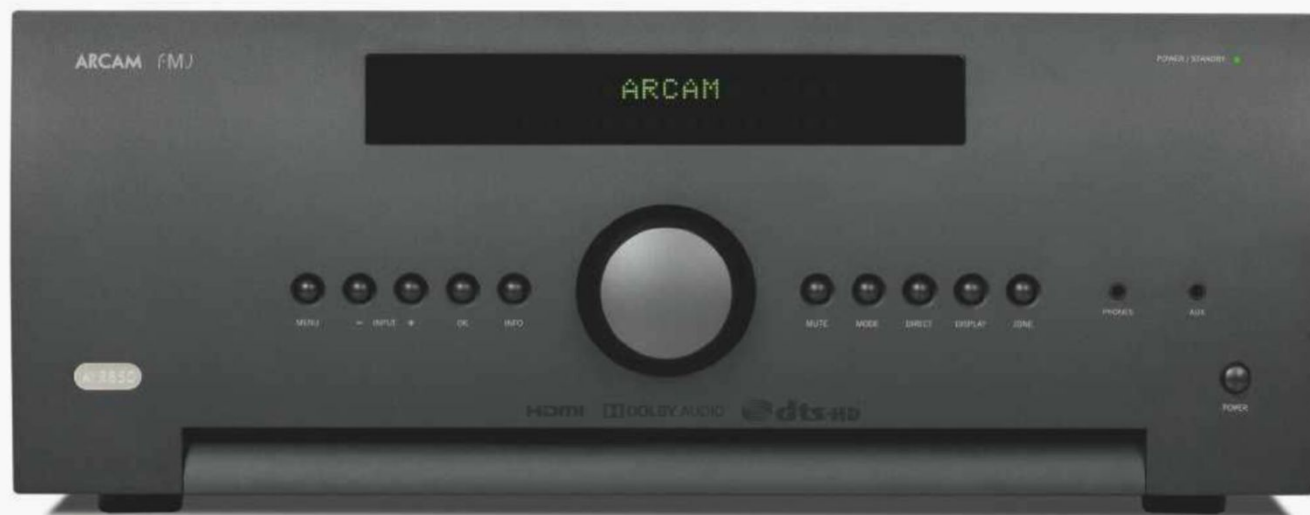
Also from the IAG stable and slightly more conventional than a valve amp/media hub are the new Wharfedale Diamond A1 Active speakers. These two way standmounts are blessed with 60W of power per piece, and the only physical connection made to each cabinet is a power input (which Wharfedale has kept as compact as possible) as the speakers communicate wirelessly with a bass station that features digital, analogue and wireless (Bluetooth) inputs. It's claimed possible to place the speakers up to twenty metres from the hub, which should make system integration nice and simple. A slim remote control rounds out the package. Pricing is still to be confirmed ■





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# Sony banks on thin 4K HDR

High Dynamic Range, new backlight technology and outrageous audio are all on the Sony menu this year. **Steve May** reports from the company's annual UK showcase



## The cost of 4K

Pricing for the first wave of Sony's 2016 TV range

### Choices, choices

Sony has confirmed suggested tickets for the initial batch of its 2016 flatscreens. They should be in a Sony Store near you right about now. These are:

*KD-65XD9305, £2,800*  
*KD-55XD9305, £2,000*  
*KD-75XD8505, £4,000*  
*KD-65XD8505, £2,300*  
*KD-55XD8505, £1,500*



At the time of writing, prices had still to be finalised for the 75in XD94 flagship, the 85in XD85 model and the SD curved series.



## 007'S BACK!

*Spectre* brings car-crashing spectacle to Blu-ray, p96



The XD93 TVs combine Slim Backlight Drive illumination with a slender design

**SONY IS HANGING** its 2016 4K TV lineup on an innovative new local dimming technology able to deliver high contrast levels within an ultra-thin chassis. Imaginatively called the Slim Backlight Drive, it involves two side-mounted LED modules paired with dual light-guides which ingeniously split screen coverage. The technique allows the set to more effectively switch off illumination to certain areas, while backlighting objects in others. The intended result is OLED-like dynamics.

We took a closer look at this optical trickery at Sony's annual UK trade show, and can indeed confirm that the brand's new ultra-slim XD93 TVs are able to deliver impressive deep blacks and bright peak whites. It's ingenious. But there are caveats: on some sequences half the screen looked pitch black, while the other, which featured illuminated objects, suffered from pronounced backlight haloing. We expect some fine-tuning may be undertaken.

'With conventional edge-lighting the LED module tends to be down at the bottom of the screen, and a light guide plate then distributes light up across the TV,' explains Gavin McCarron, Sony's home entertainment product training specialist. 'Full array backlights allow clusters of LED modules to be controlled for much more accuracy. With the new Slim Backlight Drive we're achieving an effect closer to full array LED backlighting but using an edge-lit system. We can concentrate light more accurately.'

The XD93, which replaces 2015's X93C and X90C models, will be available in 65in and 55in screen sizes. If you want larger, Sony has the 75in XD94. This model doesn't utilise the new thin-twin LED solution, but sticks with a full array backlight. An early look was really mouth-watering – and the set didn't look too chunky either.

For 2016, Sony is once again employing X-tended Dynamic Range PRO processing, which works with the backlight tech to claim a luminance range three times wider than a 'conventional' LED edge-lit TV. Sony boffins have also been toiling away making improvements to the brand's lauded 4K X1 processor. These are said to include improved Full HD to 4K upscaling and noise reduction. We can't wait to put these claims to the test.

### High street honey

While the XD93 and XD94 are Sony's top of the line tellies, real high street action is likely to centre on its incoming XD85 range. Replacing the X85C, these will come in 55in, 65in, 75in and mega 85in flavours. Both the XD85 and its step-up stablemates offer 4K HDR support, but curiously 3D is only supported on the XD93/XD94 ranges – expect to see 3D move from ubiquitous to rare across all the major brands this year, as it cycles out of favour (certain only to return at some point in the future – probably allied to 8K, without glasses).

While both the XD85 and XD93/94 are HDR capable, Sony

isn't going to be promoting them with the Ultra HD premium logo, announced by the UHD Alliance at CES in January. Instead it will utilise its own '4K HDR' branding for premium hardware, supposedly for a more coherent message across products and categories. 'You'll see it on a number of different products (cameras, broadcast equipment). It signifies our 4K ecosystem,' says McCarron.

Sony insists the XD93/94 models meet the UHD Alliance criteria, in terms of brightness, contrast and colour (meeting over 90 per cent of the DCI P3 colour space). It's fair to deduce then that the XD85 does not – although this shouldn't be seen as a demerit at this point in time. The jury is still out on the perceived benefit of 1000-nit and above screens.

When it comes to *faux* HDR, a contentious issue amongst manufacturers, Sony is fully onboard and will offer up brightening for conventional sources. The Sony SDR to HDR upscaler uses algorithms to

**'You can expect to see 3D move from ubiquitous to rare across all the major brands this year'**

predict what the original picture would look like with high dynamic range information in it. In addition to a brightness boost, the Triluminos processor will upscale narrow colour gamuts, predicting what the expanded colour range should be. And if regular HDR isn't enough, the company will also be offering an HDR Vivid mode. Just because.

However, we were told there are no plans to introduce Dolby Vision HDR compatibility, even though Sony Pictures is releasing movies in the format. 'HDR10 [Open HDR] is by far the most common standard,' argues McCarron. 'We'll keep an eye on developments, but our message just now is HDR10.'

Sony's new backlight also impacts design. The thin approach allows sets to be hung just 3.7cm from the wall (a bracket is provided in the box) – plug and cables notwithstanding. A new cable management system is also a selling point.

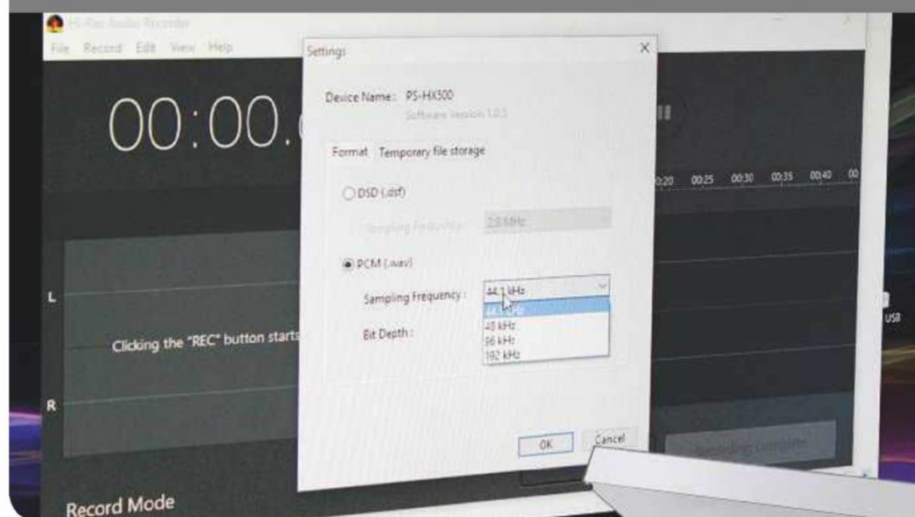
For those wondering, the company has ditched its forward-facing speaker 'Wedge' design. When asked if there was anything clever about the sound system on the new ultra-thin sets instead, we were told bluntly: 'No, most people will just use a soundbar.'

There's still a curved TV in the lineup, the SD85 available at 65in and 55in. The smallest 4K screen to be offered will be the 43in 43X83B. It's also the only model that doesn't feature a Triluminos display. If UHD doesn't interest you, additional screen lines drop down to 32in, with some even sporting 1,366 x 768 pixel counts. How cute.

Sony is also growing its range of colourful Bluetooth portables







And yes, Sony is sticking with the Google Android platform, augmented by YouView. New for this year is a voice remote control with search functionality built in. Expect the Android platform to be upgraded to Android 6 Marshmallow at some point. There are also user interface improvements planned for the content bar. Streaming channels will all appear, as well as direct access to favourite apps.

## Blu-ray with bells on

One new Sony launch which has us salivating is the UHP-H1 Blu-ray player. It may not be 4K UHD-capable, but it's very much part of Sony's High Res Audio family, and as such already looks to be the best Sony BD player in years. Due this Summer, it's expected to sell for £350.

The good news is that Sony has now committed to supporting Ultra HD Blu-ray and says it will birth a player before the end of its 2016 fiscal year (aka March 2017). This means a likely launch at next January's CES. However, UK country head John Anderson hints it could even appear sooner than that.

'Back in October/November it wasn't clear we were going to come out with one at all,' he reveals. 'It's relatively new information that within FY2016 that we will see something. It's being accelerated somehow – maybe due to more information and confidence coming through from Sony Pictures.'

Anderson says there's growing momentum behind software development. 'There is a speed at which the content will come, and there will come a point when you will have enough content out there to make it worthwhile commercially to persuade retailers to put 4K Blu-ray in their stores. You need to show momentum, else you just end up putting the hardware into a limited number of shops.'

And it's the High Res Audio UHP-H1 that could provide the platform for this new 4K player. It has a well-engineered anti-resonance chassis the likes of which we haven't seen since Sony's ES-grade player back in 2009 – ideal for a premium BD deck – and a raft of features. Twin HDMI outputs allow audio and video signals to be split, while any disc, network or USB-delivered content can be upscaled to 4K. FLAC, DSD (including Super Audio CD playback), ALAC and AIFF formats are on the hi-res agenda.

While the UHP-H1 promises refinement, you can also expect audio to get rowdier this year. Sony says there's a groundswell of interest in so-called 'high power' audio systems – those big-driver all-in-ones



**The PS-HX500 (above) comes with intuitive ripping software**



**An anti-resonance chassis is one of the USPs of Sony's UHP-H1 Blu-ray spinner**

**Sony's GTK-XB7 – part of its in-ner-face high-power speaker line**



which combine pumping LED light displays with massive amplification, first developed for the Latin American market. Headman Anderson told HCC that Sony sold 5,000 such systems over the Black Friday period alone. As a result, it's pumping up the volume further. New models can be daisy-chained (Party Chain mode) for the optimum clubbing experience. We tried it, and do they go grin-inducingly loud.

Where it gets a little bizarre is the flagship MHC-GT4D audio system (yours for £600). This comes with independent line-array speaker sections that can function in a soundbar format, delivering audio via an ARC HDMI connection. There are also karaoke microphones. And flashing LED lights.

Lots of flashing lights. This is clearly one soundbar determined to stand out from the crowd; perhaps not for the AV purist but an appealing starter system for a junior AV-Holic.

Coincidentally, Sony is building TV speaker functionality, via HDMI ARC, into a number of wireless speakers, which will allow even diddy kitchen, bedroom or playroom TVs to benefit from better audio without recourse to an expensive 'bar.

## Ripping up the vinyl rulebook

Despite its eye-catching slim-screen lineup and boisterous audio propositions, perhaps the product likely to generate most column inches for Sony this year is its PS-HX500 turntable. It's the first record deck in the world that allows you to rip native DSD from vinyl. Both DSD 2.4 and double DSD 5.6 are supported (along with other formats), and the player makes ripping a cinch. To perform the same trick without an HX500 would involve a heap of gear.

Sony suggests users will be keen to archive their own collections, as well as preserve the quality of new vinyl purchases, recording that first needle drop for posterity in pristine digital format. The deck, which will sell for £450, comes with ripping software. We had a play and it's a doddle to use. Somehow, Sony has found a way of integrating the current vinyl boom into the high-res audio revolution, and it works brilliantly well.

Ultimately, explains Anderson, Sony is all about selling performance. 'What we have to do is have confidence that there is always a consumer out there who wants higher quality. Before we launched 4K, people would say that TV picture quality had got to a point where consumers couldn't tell the difference. But 4K has proved that consumers aren't so silly. They can see the difference' ■





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1. Aug 2015: Epson blind test between Acer H6510BD, BenQ TH681+, Epson EH-TW5200, Optoma HD26 and ViewSonic PJD7822HDL.  
For further info on the test and on the 3x brighter colours data please see [www.epson.co.uk/CLO](http://www.epson.co.uk/CLO)

2. Survey conducted by Futuresource Consulting Limited for the period from 2001 to 2015.

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# AMERICAN



As the Criterion Collection makes the jump to the UK, **Anton van Beek** quizzes the company's CEO Jonathan Turell about the ins and outs of launching a new premium Blu-ray label



The Criterion Collection's distinctive logo has become a symbol of quality among cinephiles

**EVEN DURING THE** early days of Laserdisc, UK film fans looked with envy across the Atlantic thanks to the effort US distributor Criterion put into its releases. Not only were titles presented in the most complete version possible and at the correct aspect ratio, they were bundled with newly-produced bonus material designed to act as a sort of 'film school in a box'.

Later, the advent of DVD and then Blu-ray saw the Criterion Collection take on legendary status among movie geeks. Yet region coding meant it remained frustratingly beyond the reach of those UK collectors without access to a multi-region player.

Those dark days will come to an end this April as the Criterion Collection launches in the UK through a distribution deal with Sony Pictures. It will kick off with six films, and promises many more. Criterion Collection CEO Jonathan Turell agreed to fill us in on some of the details...

**For those who haven't encountered the Criterion Collection before, can you explain a little about the history of the company and its guiding ethos?** Since 1984 we've been dedicated to gathering the

greatest films from around the world and publishing them in editions that offer the highest technical quality and award-winning, original supplements. And over the years, as we moved from Laserdisc to DVD and Blu-ray we've seen a lot of things change, but one thing has remained constant, and that's our commitment to publishing the defining moments of cinema for a wider and wider audience.

I've been here since the beginning and am very happy to say that we've done our best to stay true to that for 30-plus years. The foundation of the Collection is the Janus Films library – Janus and Criterion are sister companies – but we also have licensing arrangements with all the American major studios.

Every time we start work on a film, we track down the best available film elements in the world. We use state-of-the-art telecine equipment and a select few colourists capable of meeting our rigorous standards, then take time during the film-to-video digital transfer to create the most pristine possible image and sound. And whenever possible, we work with directors and cinematographers to ensure that the look of our releases does justice to their intentions.



# IDOLS



destroyed and we had to put our release together from faded and torn prints, old 1in tapes etc. But in the end we were very happy with it.

**The range runs the gamut from Alfred Hitchcock and Satyajit Ray to The Beastie Boys and Michael Bay, so exactly what is a Criterion Collection film?**

A few years ago we started a campaign called '3 Reasons' and the idea behind it was that there are reasons why every film that's in the Collection is there. They can be exemplary films of their kind; they can be directed by one of the masters, or a first film by an upcoming auteur, a great comedy or a relentless tragedy. For me, the films I love in the Collection are ones that can be watched over and over again. No matter what 'the reasons' are for any film being in the Collection, someone at Criterion has to stand up for the film and make the argument why it should be included.

**Criterion pioneered the audio commentary on its 1984 Laserdisc of the original *King Kong*.**

**How important are supplementary features?**

We use the supplements to enhance the audience experience when watching the movie. The movies are still the basis for each release and we don't produce supplements to pad any release. Each title gets a producer who is responsible for assembling the content and making sure that it comes together in a cohesive package.

**So, what made Sony Pictures Home Entertainment the ideal partner to handle distribution of your titles in the US since 2013 and now here in the UK?**

We've worked with Sony for years licensing films for the US market. It's a great group of people that appreciates what we do. About a year ago, I started discussions about expanding our relationship to the UK to bring together the films we represent with those of Sony. I'm thrilled that we're here!

**Is the plan to eventually release all US Criterion Blu-rays in the UK? And if so, how will that work with regards to rights that lie with other labels?**

I don't think we'll ever be able to publish in the UK all the titles we've released in the US. However, the response from our licensors has been supportive and we expect to keep adding to the list of titles that we'll be able to make available in the UK.

**In the past you've licensed HD masters and supplementary materials to UK rights holders such as Eureka/Masters of Cinema and Arrow Video. Is that something that will continue now that Criterion has entered the UK market itself?**

We've worked with all of these companies and they have issued many wonderful editions. That said, what we do is very time-consuming and expensive and we've never really made an effort to license the material we produce. We have done it, both as a favour to our licensors and to the talent we've worked with so that these materials can be seen in other markets. But with our ability to publish directly in the UK, I don't imagine we will license



Nearly 200 filmmakers have so far made our library of Director Approved Laserdiscs, DVDs, and Blu-rays, which we believe is the most significant archive of contemporary filmmaking available to the home viewer.

**You claim a commitment to sourcing the best available elements for releases, but where does the threshold lie for deciding that something should not be released if suitable materials cannot be found? Have you ever had to cancel any releases for this reason?**

We do a tremendous amount of research to seek out the best materials, often checking archives from around the world and comparing several elements of the same films to see which produces the best image. There have been times we've been set to release a film and turn up a different element and have to rescan and start again, but that doesn't happen too often.

At the end of the day, we wouldn't hold a release of a title because we couldn't get elements that were 'good enough'. Somehow, that censoring of a film seems counter-productive to our mission. If we were confident it's the best we could do, that's what we would publish. For example, as much as we wanted to release the 'roadshow' version of *It's a Mad, Mad, Mad, Mad World*, much of that material was

**A selection of stills from the first wave of UK Criterion Collection Blu-rays. The Buster Keaton comedy *Speedy* (1928), Frank Capra's *It Happened One Night* (1934), Howard Hawks's *Only Angels Have Wings* (1939), Roman Polanski's *The Tragedy of Macbeth* (1971), acclaimed documentary *Grey Gardens* (1975) and the Dustin Hoffman comedy hit *Tootsie* (1982)**



WIN!  
WIN!

## Competition

Jump-start your collection of Criterion Blu-rays...



The Criterion Collection launches in the UK on April 18 with six beautifully restored and feature-packed Blu-rays: *Speedy* (1928), *It Happened One Night* (1934), *Only Angels Have Wings* (1939), *The Tragedy of Macbeth* (1971), *Grey Gardens* (1975) and *Tootsie* (1982).

To celebrate we've teamed up with The Criterion Collection to give away three sets of this first wave of six Blu-rays. To be in with a chance of winning, simply answer the following question correctly...

**Which English TV personality plays the young son of Lord Banquo in Roman Polanski's *The Tragedy of Macbeth*?**

- A) Russell Grant
- B) Keith Chegwin
- C) Christopher Biggins

**To enter**, simply email your answer (A, B or C) to [competitions@homecinemachoice.com](mailto:competitions@homecinemachoice.com) with the subject heading 'Criterion' by the closing date of April 21. And include your name and address.

See p86 for full terms & conditions



Criterion's *The Tragedy of Macbeth* Blu-ray is based on a 4K scan of the original 35mm camera negative

as much as we have in the past. That said, we never say never...

**So given that the rights to some US Criterion titles lie with different distributors in the UK, what proportion of your catalogue do you hope to bring to these shores?**

I don't think anything is 'off-limits'. For many titles our rights are limited to North America, but as I said, the first reactions from our licensors have been very positive. I don't think there will be any shortage of titles. The first year's group of titles is pretty awesome.

**And at this early stage, are there any US Criterion Blu-rays that you can categorically state will not be joining the UK lineup?**

I'm happy to say no, but then I pretty much don't categorically state anything!

**Can you ever see a time where Criterion releases UK-exclusive Blu-rays? Licensing titles for release in the UK that you can't get hold of the rights for in the US?**

Maybe... But at this time, I think the UK releases will mirror some of what we're releasing in the US. Based on sheer size alone, we need the size of the US market in addition to the UK to amortize the costs of production.

**The first wave of UK releases (*Speedy*, *Grey Gardens*, *It Happened One Night*, Polanski's *Macbeth*, *Tootsie* and *Only Angels Have Wings*) represent a range of different forms of cinema, from silent classic to documentary and even a mainstream '80s comedy. How was the decision made to start with those six films?**

The titles really show the breadth of the Collection. They are a combination of Sony and Criterion/Janus titles, have great supplementary features and are just really good movies.

**Can you drop some clues about what we can look forward to in the coming months?**

That's still to be determined. We want to get to a critical mass pretty quickly over the first few months and then I anticipate we'll probably release a couple of films each month. Some will be day-and-date with the US and others will be back-catalogue.

Over the years, we've done a pretty good job not leaking what's coming except for a clue given by a 'wacky animal' in our monthly newsletter. Sign up at [www.criterion.com](http://www.criterion.com). I can tell you that it's going to be a great year.

**Given the nature of the collector's mindset we have to ask: will the disc numbering for the Collection in the UK match that of the US?**

The spines in the UK will carry the US spine release numbers. We had many discussions about this and decided this way was best – it seemed weird to have different films occupy the same spine number. Once a film has a spine number in a medium (Laserdisc, DVD/BD), it owns it.

**With the public often being told that physical media is dying, what made 2016 the right time to enter the UK Blu-ray market?**

I'm not sure I agree with the premise that the market is dying! We're doing just fine in the US in packaged goods, even as we broaden our distribution into digital and streaming.

There's no doubt that the market is changing, but I believe we occupy a very important niche and this is an ideal time for those people who want to collect and hold these masterpieces in their hands.

**Are you excited about the advent of Ultra HD Blu-ray? And, with Criterion having already worked with 4K restorations as sources for some of its Blu-ray releases, does the UHD disc format play a part in the company's road map for the future?**

I'm more interested in talking about the present. As a company, we've always been agnostic about the medium – Laserdisc, CD-ROM, DVD, BD, streaming, etc. As much as we're a home video company, we still believe that the best way to watch movies is in a large dark room with a lot of strangers.

To that end, we've got a dozen theatrical releases planned in the US through Janus Films this year and arranging screenings in the UK is an interesting idea. I see that happening before I see any Ultra HD Blu-ray releases ■

**The Criterion Collection Blu-rays of *Speedy*, *It Happened One Night*, *Only Angels Have Wings*, *The Tragedy of Macbeth*, *Grey Gardens* and *Tootsie* are scheduled to hit the UK on April 18 and will be reviewed in the next issue of HCC**



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# Two rooms = twice the fun

While we all aspire to immersive AV in our home cinema, how many have considered Dolby Atmos in the bedroom?

A

## CINEMA ROOM KIT LIST

**SONY:** VPL-VW500ES 4K projector, with Future Automation ceiling bracket

**SCREEN EXCELLENCE:** 150in Enlightor Neo-S screen

**ARTCOUSTIC:** 3 x Spitfire 8-4; 2 x Control Sub 2 plus PA750 amps; 4 x 40-30 SL 4-2; 4 x Architect SL 4-2

**CINECA:** 12 x Siena cinema seats

**INTEGRA:** DTR-70.6 receiver; DTR-50.3 M2 BD player

**KALEIDESCAPE:** 1U Server; M700 Disc Vault

**APPLE:** Apple TV; iPad Mini

**SKY:** Sky+HD

**CRESTRON:** System control

## MASTER BEDROOM KIT LIST

**SAMSUNG:** UE85JU7000 Ultra HD TV

**ARTCOUSTIC:** 2 x 40-30 SL 6-3; Multi Soundbar SL;

2 x Diablo SL; 2 x Architect SL 2-1; Impact-1 SL sub

**INTEGRA:** DTR-30.6 receiver; DTR-50.3 M2 BD player





**RED  
MENACE**  
Matt Damon  
battles for  
survival in *The  
Martian* p101

**DOLBY ATMOS HAS** taken the custom install industry by storm. That's no surprise, as dedicated rooms are ripe for carefully calibrated 3D sound and the installation possibilities are expanded when you're dealing with new stud walls and ceilings.

This month's featured cinema, designed and installed by Cheshire's Niche Audio Visual Limited, provides Dolby Atmos theatrics via a 7.2.4 speaker array, with the height models fitted in-ceiling, the LCR stage behind the screen and the surrounds mounted on-wall. All the speakers and subwoofers are culled from Artcoustic's range.

This high-performance setup is complemented by a Sony Ultra HD projector – yet another example of how the Japanese marque is stealing a march on rival brands still dealing in Full HD.

But the fun doesn't end there. The audiophile owner of this slick cinema also demanded Dolby Atmos for their bedroom setup. This is 'only' 5.1.2, but joins forces with a monster 85in Samsung UHD screen for the ultimate in relaxed movie watching. With that AV goodness on tap, we think we'd struggled to get out of bed in the morning ■

#### A. Home cinema all around

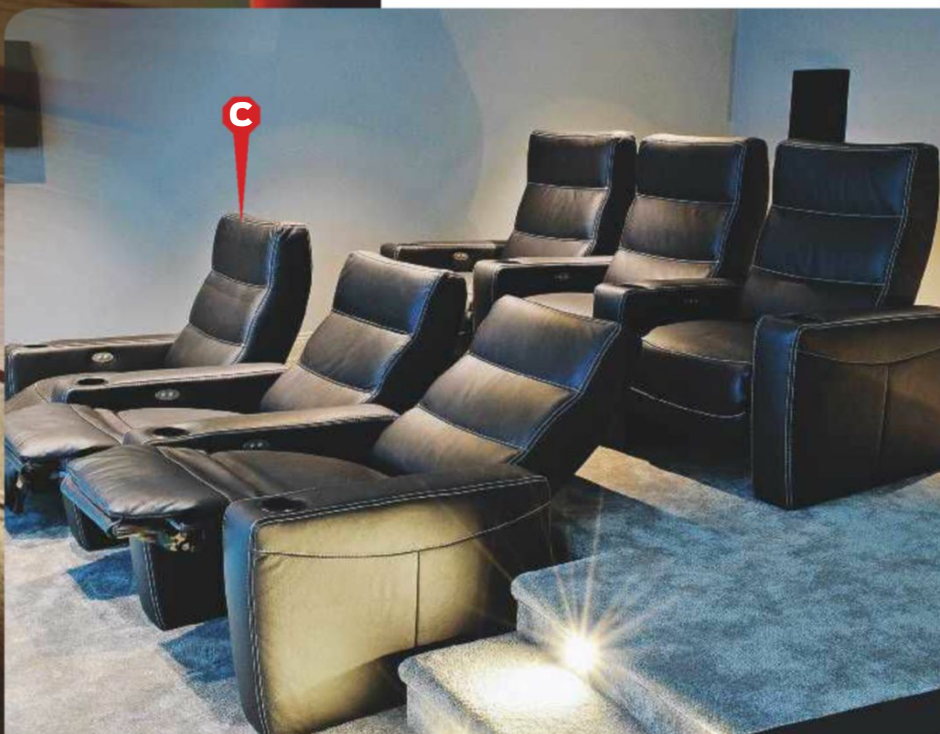
On-wall and in-ceiling Artcoustic speakers, supported by Integra processing and power, provide the cinema's 7.2.4 Dolby Atmos sound system – with the pair of woofers enjoying their own dedicated 750W amplifiers

#### B. Time to be Enlightened

The 2.37:1 projection screen is from Screen Excellence. A 150in Reference Series fixed-frame model, it uses ISF-certified fine-weave Enlightor 4K fabric

#### C. Delectable dozen

There's room for twelve in the cinema, courtesy of two rows of Cineca Siena seats. Each offers a motorised recliner, footrest and a holder for your mega-sized cup of fizzy pop







#### **D. Setting the tone**

While often considered a finishing touch, smart lighting can add serious appeal to a movie den. This room combines mood-matched LED strip lights, floor lights and down-lighters

#### **E. UHD for all**

Another pro install, another win for Sony's 4K projection stable. The model here is a VPL-VW500ES, rated at 1,700 lumens

#### **F. Cue before view**

There's a games room outside the cinema, too!

#### **G. Rack 'em up**

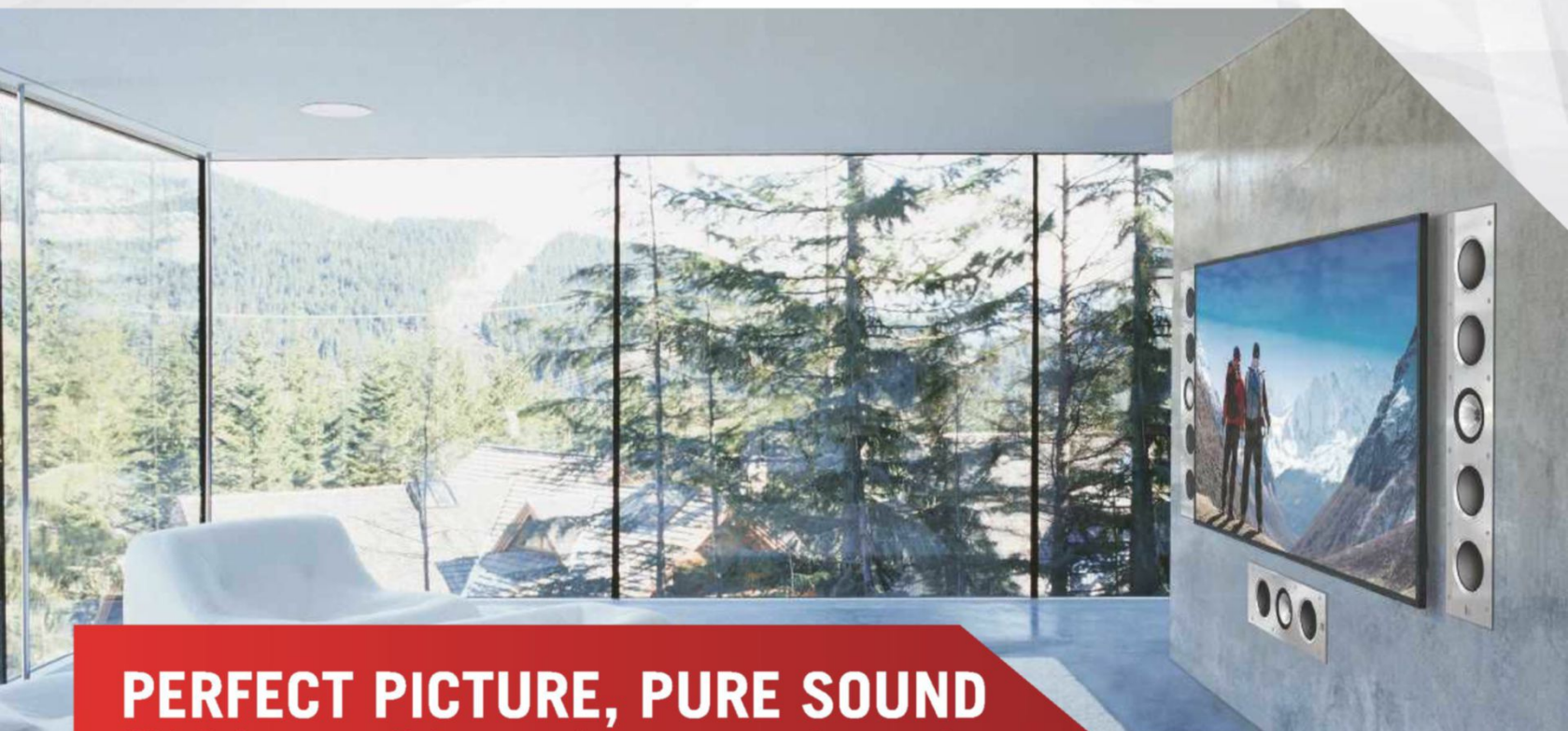
Running all the zones in the house is this imposing AV rack. Sources include a quartet of Sky+HD boxes

#### **H. Movies in bed**

As well as the Atmos speakers, the bedroom finds space for an 85in Samsung Ultra HD TV







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# REVIEWS

→ **HARDWARE** DENON Dolby Atmos and DTS:X-enabled AV receiver **SONY** Full HD SXRD cinema projector **PHILIPS** 55in Ambilight Ultra HD TV **YAMAHA** MusicCast speakers and YSP-1600 soundbar **BUSH** Affordable 58in 4K LED TV **DARBEE** Rack-mountable DVP processor **SAMSUNG** Soundbar/subwoofer combi **GROUPTEST** Bargain-priced Full HD PJs & MORE!



## Revolutionary road

With the XT models, Tannoy has revamped its Revolution speaker range. Can this multichannel package set us on the way to home cinema heaven? See p46.

HCC RATINGS KEY...	
Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed



## AV INFO

## PRODUCT:

High-end object-based audio AVR

## POSITION:

Below the AVR-X7200WA in Denon's home cinema stable

## PEERS:

Onkyo TX-NR3030; Pioneer SC-LX89

If 3D audio's your thing, then this Denon AVR is where you want to be, says **Steve May**

# X marks the spot

It's a tempting time to upgrade your AVR. With a rising tide of 4K content requiring HDCP 2.2 copy protection, UHD 2,160p displays and object-based audio formats, the stars are aligning for those eager for a movie theatre makeover. And if you're prepared to shop at a higher level, there're precious few compromises that need be made.

Consider Denon's AVR-X6200W, one of the most advanced nine-channel receivers in town. Not only does this £1,800 receiver handle 4K HDR sources and Dolby Atmos/DTS:X bitstreams, you can even upgrade it to Auro-3D, should you be a completist.

## More Mayweather than Marciano

Despite offering nine channels of power, the AVR-X6200W is no oversized beast. Indeed, weighing 14kg, I'd rank it something of a middleweight. Beneath the lid you'll find the brand's Monolithic amplifier design with customised Denon High Current Transistors (DHCT), and quad SHARC processor DSP engine. There are no surprises in terms of design, but the finish is polished. Twin dials for volume and input selection flank a large, clear display, while a fascia drawbridge hides on-body controls and front-facing inputs, including HDMI, USB and a full-sized headphone jack.

Denon has refined the install process to sugary consistency. The AVR boots with a Setup Assistant that guides you through speaker and source connections, as well as your amp configuration for Dolby Atmos and DTS:X. It's clear and understandable. The process ends with an Audyssey MultEQ XT32 (Pro) auto calibration routine. Unfortunately, this is where the wheels fall off. I dutifully played ball with Audyssey, choosing to measure and aggregate four listening positions (from a possible eight); a fair amount of chirping followed. Once done, I popped in a Dolby Atmos test disc to see what the optimisation had given me – and was dismayed. The AVR sounded gutless. I tried the routine again, this time with fewer measurement points, and got largely the same result.

1. Use the handset for basic control, and the GUI for serious tweaks

2. The DTS:X update is now live on the AVR-X6200W











3

There are a variety of MultEQ XT32 playback modes: Reference rolls off at higher frequencies, for movie viewing. There's also L/R bypass, which is the same as Reference, but bypasses processing on the main stereo channels. Then there's Flat, said to be suitable for smaller rooms. There are also Dynamic EQ and Volume functions, both of which I would leave off in virtually all situations.

To be honest, I blow hot and cold with Audyssey, sometimes getting quite good results, but on the X6200W the optimisation was woeful. I had no option but to go back to square one, and recalibrate manually using an SPL meter. My measurements looked (and sounded) entirely different from what Audyssey had tried to fob me off with. The receiver was immediately less emasculated.

There are a number of speaker templates available in the Denon's Speaker/Amp Assign menu, covering most possible layouts (one day high-end amps may be able to truly map your speaker positions, but for the time being we have to use generic templates). There's 7.1 with front heights; 5.1 with two additional stereo zones for multiroom; 7.1 with bi-amped fronts, and so on. 3D audio channels can be configured with Dolby-enabled speakers placed front, middle or rear, or via ceiling-mounted speakers. I ran the amp with a conventional seven-channel speaker layout, plus two height channels.

Connectivity is comprehensive. The receiver sports three HDMI outputs and eight inputs. HDCP 2.2 is supported across the board. There's also a quartet of digital audio inputs (two optical, two coaxial). Of more esoteric use are dual 12V triggers, RS232, IR remote in/out and Denon Link. Legacy users will be interested in the two component inputs and one output, plus four composite video inputs. And it may be a nine-channel design, but this AVR has the wherewithal to decode 11.2, with 13.2-channel

4



pre-outs, with two additional zones supported. Looking at the back panel can give you a headache.

Bluetooth is onboard and there's integrated Wi-Fi with rear-mounted aerials if you don't want to use Ethernet. 4K HDCP 2.2 with 4:4:4 colour subsampling is supported across the board, along with HDMI passthrough.

Frippery is limited. Once networked, the receiver's online music section offers a bare minimum of content – just vTuner internet radio, access to any connected DLNA media players and Spotify Connect. File compatibility is good, playing all the usual fare, including DSD 2.8MHz but not double/multichannel DSD. FLAC 24-bit/192kHz will probably be enough for most hi-res music aficionados.



If you have HEOS multiroom kit, then the AVR-X6200W can be controlled with the HEOS app.

Dolby Atmos has been well documented in previous issues, but it's worth repeating that a nine-channel layout is considerably more satisfying than a seven-channel system, in that the soundstage isn't compromised by a hole at the back of the room. I found the two Atmos upfiring speakers most effective when placed a metre or so from my listening position.

With the AVR-X6200W DTS:X-enabled now firmware has landed, I turned to this immediately. The format seems entirely happy with the aforementioned Atmos layout. Indeed, while Atmos often takes a little fiddling to get the right effect, I literally did next to nothing for DTS:X. With *Crimson Peak*, the creaking, eerie atmosphere of the haunted house sounded immediately on the money.

As for Auro-3D, Denon has rather helpfully come to an accommodation with Auro Technologies to allow a single Atmos speaker configuration to serve both Dolby Atmos and Auro-3D. Until now, it's only been possible to have one or the other, which means users miss the rear height information either for Atmos or Auro mixes.

The AVR is at its best when it has lots to do. *John Wick* (Blu-ray, Dolby Atmos) is a wonderfully visceral experience, with a huge amount of sonic detail dispensed front and rear. Guns fire with bludgeoning force, the receiver doling out retorts like a champion reigning body blows on a journeyman. The denouement, which follows some terrific car-slammings action, plays out in a rainstorm. And if there's one thing Atmos does well, it's a downpour.

The amp is rated at 9 x 140W (8 Ohms), and exhibits no shortfall in power. It's able to deliver swinging transients. In medium-sized rooms, it'll do justice to blockbusters, but can also etch with a much finer, more precise brush.

Sometimes it's difficult to pinpoint exactly why 3D audio is so immersive – it can be small details which make a big impression. In the 'toon sequel *Rio 2*, when the Blue Squad fight back against developers (DTS:X demo disc),

**'The Denon can do justice to bludgeoning blockbusters, but can also etch with a much finer, precise brush'**

the soundstage is a riot of squawking parrots and coconut projectiles. The same sequence played back without height component immediately loses the sonic bedlam. The soundstage is flatter and a good deal less interesting.

The sheer scale of the Denon's output is showcased brilliantly by *Mission Impossible: Rogue Nation*. This outlandish romp uses Dolby Atmos to magnify the height and width of its stunts. The motorcycle chase is extraordinarily exhilarating, with two-wheeled racers soaring from rear to front, almost displacing air as they travel overhead. When Tom Cruise enters the underwater Taurus, the sense of immersion will have you involuntarily holding your breath, while the fisticuffs at the Vienna Opera reverberate as if within its expansive auditorium.

Of course, there's not enough DTS:X material available to come to any definitive view about the formats, but like its Dolby equivalent there's a mode (Neural X) which upscales regular audio with height information. At the conclusion of *The Hunger Games: Catching Fire*, when the

## SPECIFICATIONS

**DOLBY ATMOS:** Yes **DTS:X:** Yes **THX:** No **POWER OUTPUT (CLAIMED):** 9 x 140W (8 Ohms) **HDMI:** 8 x inputs; 3 x outputs **AV INPUTS:** 5 x composite video; 4 x digital audio (2 x optical, 2 x coaxial); 2 x component video **ANALOGUE MULTICHANNEL INPUT:** No **MULTICHANNEL OUTPUT:** 13.2-channel pre-out (with 11.2-channel processing) **MULTIROOM:** Yes, Three zones **VIDEO UPSCALING:** Yes, To 2,160p **DIMENSIONS:** 434(w) x 383(d) x 167(h)mm **WEIGHT:** 14.2kg

**FEATURES:** Integrated Bluetooth and Wi-Fi; ISF video calibration; Apple OS and Android control apps; Audyssey MultEQ XT32 (Pro) room EQ; DLNA media playback; Ethernet; USB; FM tuner; Spotify Connect; AirPlay; vTuner internet radio; Auro-3D upgradeable (paid update); Denon Link HD; 2 x 12V triggers; RS232; IR input; hi-res audio support including FLAC, DSD and AIFF

## PARTNER WITH



**KEFR50:** The Atmos upfiring speakers use a single KEF UniQ driver to deliver wideband reflected audio. Priced £600 a pair, they're a sensible match for an above entry-level system. Styling and build quality is top-notch

Mockingjay is airlifted from the shattered dome, the Neural X presentation is entirely convincing, the extra sonic space pushing back the walls of my room. The collapsing structure lands with huge LFE, and the score literally soars.

Similarly, the *Robocop* reboot, which enjoys a delicious energetic multichannel sound design, positively relishes the *faux* height channels. The mayhem of the ED209 shoot-out is amplified; there's so much masonry in orbit I longed for a hard helmet. Even as something of a soundtrack purist, I felt little compunction about upscaling.

Audio sources, though, are more of an issue. Shonen Knife's punk tribute *Osaka Ramones* is wonderfully raw and dynamic, but run through a 3D processor, the vocals recede and the band become muffled. Multichannel Stereo is actually a lot more enjoyable.

Genuine multichannel music is another thing. An Atmos mix of the Philharmonia Baroque Orchestra, performing Haydn's *Symphonies*, is gorgeously evocative, with space and delineation defining the size of the orchestra.

When listening to multichannel sources, you can again apply Dolby Surround or DTS Neural X processing. Is there a difference between the two? Not overtly; they both do much the same thing. The 5.1 DVD Audio mix of Queen's *The Prophet's Song* perhaps moves to a wider stage when delivered with Neural X. Brian May's guitar chops and scythes, alongside the stomping drumwork.

## Uncompromised entertainment

I'm really excited by the AVR-X6200W. This 9.2 movie machine has the tools to delight cinephiles, with a spec that should ensure uncompromised entertainment. Once rescued from Audyssey auto calibration it proved to be lithe, muscular and musical ■

## HCC VERDICT



### Denon AVR-X6200W

→ £1,800 → [www.denon.co.uk](http://www.denon.co.uk)

**WE SAY:** The crisp, powerful delivery, ease of use and all-round modern specification make this AVR an instant hit – Audyssey MultEQ XT32 is a performance vampire, though

**3. The bank of speaker terminals caters for different setups**

**4. The Denon's pull-down flap hides controls plus additional inputs**

## AV INFO

**PRODUCT:**  
Premium Full HD  
SXRD projector

**POSITION:**  
Sony's top-level  
1080p model

**PEERS:**  
Optoma HD91+;  
JVC DLA-X5000;  
Sony VPL-  
VW300ES

Sony's latest home cinema projector may not be 4K, but **John Archer** thinks it still has a lot to offer

# Sony lures with Full HD hero

While DLP models are incoming, Sony is currently the only projector manufacturer making genuine 4K resolution projectors for the home – a fact that's served it well over the past couple of years, allowing it to lay a claim to a high-end projector market that had previously had its head turned by JVC's excellent – but not currently truly 4K – D-ILA projectors.

The VPL-HW65ES I'm looking at here, though, is not 4K. It's Full HD. So why start off by talking about 4K? Because at £2,800 this is relatively expensive for an HD model, raising questions of whether it still ploughs a worthwhile furrow in the face of genuine 4K competition such as Sony's £5,850 VPL-VW300ES, or 'pseudo' 4K models like JVC's £4,000 DLA-X5000.

## Contrasting fortunes

Ignore the resolution and the VPL-HW65ES's specifications make impressive reading. The Full HD SXRD chipsets at its heart deliver a promising combination of a claimed 120,000:1 contrast ratio and 1800 lumens of maximum brightness. The contrast figure is particularly huge by projection standards. However, it's achieved via a dynamic iris system that continually analyses the image content and adjusts the amount of light coming through the lens accordingly. JVC's D-ILA models, by comparison, achieve similar contrast ranges natively, without the need for a dynamic light engine and the sort of image instability such engines can cause.

Sony claims the HW65ES's lamp should last for an agreeable 6,000 hours if you stick to its Low lamp output, and it's also equipped this top-end HD projector with a decent roster of video processing tools. These include Reality Creation processing for boosting the sharpness of HD sources, and Sony's Motionflow system for tackling motion issues like blur and judder.

And the projector features a decent array of setup aids. There are wheels sited on the projector's upper edge for shifting the image vertically or horizontally, and a very healthy 1.6x optical zoom that delivers a throw ratio of 1.36:1-2.16:1. Connections are much as I'd expect of a well-to-do projector in 2016: two HDMI's (both capable of handling Full HD 3D); RS232, IR input and Ethernet ports for integrating the projector into a home

automation system; and a 12V trigger output for firing up a motorised screen.

Key picture tweaks include a reasonably well calibrated series of picture presets (including a Cinema 1 mode I found to be the best starting point for dark-room movie viewing), and all the usual colour, gamma and white balance adjustments £3,000 projector buyers will want. Not all of these tools are presented in a standard way, which can mean fine-tuning takes longer than normal, but you'll get there in the end.

For what it's worth, a few handy starting points I'd recommend are: choosing the aforementioned Cinema 1 preset; selecting the High setting for the projector's Dynamic Iris system; setting gamma to Sony's Gamma 8 mark; making sure the Motionflow system is on True Cinema; switching off the Clear White and Colour Correction features; and slightly reducing the Resolution element of the Reality Creation system. With these settings in place, the HW65ES's pictures really are outstanding.

Take, for instance, its handling of low-lit scenes. The night-time sequences in the desert in *Mad Max: Fury Road* are challenging to show convincingly, but the Sony's ability to deliver black colours with depth, and free of grey misting or unwanted blue tones, helps them look natural and immersive. What's more, despite having to rely on that dynamic iris system to deliver its optimum contrast performance, the HW65ES injects enough subtle lighting and shadow details to ensure that the scale and dimensionality of the night-time environments comes through. Which means, in turn, that *Mad Max's* dark sequences appear pleasingly consistent with its bright ones, rather than some flat, hollow, poor relation.

Director George Miller uses some pretty heavy colour filtering during *Mad Max's* murky scenes, but here again the

1. The backlit remote features keys for nine picture presets

2. The VPL-HW65ES is available in black, too







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**HOME**  
**CINEMA**  
Choice  
**BEST BUY**



3

HW65ES rises to the challenge. The basic colour tones are there, but with plenty of subtle blending. There's no need to worry about colour blocking or striping here, even over *Mad Max's* widely varied array of skin hues.

Another positive highlighted by this Blu-ray torture test concerns the strength of Sony's SXRD chipsets. The subtle green speckling and colour striping 'rainbow effect' noise associated with rival DLP technology is noticeable by its absence.

For me, dark scenes look their most enjoyable and engaging with the projector's auto iris set to its top level, as noted earlier. But this mode can – predictably – cause perceptible shifts in the image's overall brightness. I'd say the benefits outweigh these jumps, but if they prove too much for you then activating the Limited auto iris setting practically removes them, albeit at the cost of some dynamism in the HW65ES's performance.

### Mayan mayhem

A run-through of Mel Gibson's under-rated *Apocalypto* reveals some superb colour handling. The unit revels in everything from the richly detailed and dense tones of the

4





film's jungle sequences to the sun-bleached shots of bloodied and painted skin during the scenes at the temple. Jaguar Paw's dramatic escape from his captors as spears rain down around him is a feast for the eyes.

The boldest hues in the Mesoamerican thriller look punchy and authentic, without creeping over into gaudiness or beginning to look unbalanced. Just as importantly, the more muted tones Gibson's naturally-lit film delivers are convincing and full of nuance.

It's that all-important mix of subtlety and dynamism. And this is an area that marks out the HW65ES as a premium HD model, especially as it retains both these qualities regardless of whether you prefer very 'accurate' images or the slightly more dynamic ones the projector's presets seem to favour.

I turned to Ridley Scott's pretty but vacant *Exodus: Gods and Kings* to study the unit's handling of fine detail, and it continued to excel. Exceptionally detailed shots, such as armies racing to get through the parted Red Sea, are clear and full of texture. Subjectively, they actually appear slightly higher than HD in resolution, despite the native 1,920 x 1,080 pixel count. This is where the HW65ES's Reality Creation processing engine is most immediately helpful – just reduce the resolution element of it slightly to stop the sharpness-boosting tech from adding deleterious noise.

**'The boldest hues in Mel Gibson's *Apocalypto* look punchy and authentic; muted tones are full of nuance'**

And Sony's Motionflow engine (in True Cinema mode) proves unusually good at reducing judder when watching *Exodus*'s battle-tastic set-pieces. The image's striking sharpness and pixel precision isn't limited to static content.

Sealing an excellent picture quality deal is the projector's brightness output. This is eye-catchingly high even after you've tweaked output to deliver a convincing black level response.

Or at least this is the case if you leave the lamp set to High. Reducing the lamp to the Low setting that you might want to use to minimise running noise and maximise lamp life takes an unusually large amount of light out of pictures. They start to look too flat and lifeless for comfort. Fortunately, the Sony still keeps noise intrusion down in its High lamp mode. But there's nothing you can do about the hit the lamp will take to its life expectancy.

## Not lagging behind

Two further areas of the HW65ES's performance to consider are its input lag (the time it takes to render its pictures) and its 3D playback. I measured the former at just 20ms when using the Gaming picture preset – pretty much as low a figure as you'll get on a video display, and one that should have practically no impact on your fragging abilities.

The situation with 3D is a little more mixed. The Sony does a credible job of rendering both the rich colours of the control room instrument panels in *Pacific Rim* and the much subtler colours of the film's various defence mechanoids, as well as using its strong contrast to craft

## SPECIFICATIONS

**3D:** Yes, Active **4K:** No. Full HD 1,920 x 1,080 **CONNECTIONS:** 2 x HDMI inputs; 1 x RS-232; 1 x 12V trigger output; 1 x USB for service use; 1 x Ethernet port for network integration; 1 x IR input **BRIGHTNESS (CLAIMED):** 1,800 lumens **CONTRAST (CLAIMED):** 120,000:1 (dynamic) **Zoom:** 1.6x manual **DIMENSIONS:** 407.4(w) x 463.9(d) x 179.2(h)mm **WEIGHT:** 9kg

**FEATURES:** Reality Creation processing; Motionflow processing; built-in 3D transmitter; Low and High lamp modes; dynamic iris mode; 9 x picture presets including a dedicated Game mode; horizontal (+/-25 per cent) and vertical (+/- 71 per cent) optical image shifting; 215W UHP lamp; wireless HDMI compatibility; 22dB claimed running noise; 6,000-hour claimed lamp life; 1.36-2.16:1 throw ratio

## PARTNER WITH...



**SONY IFU-WH1:** Cut the cable between the VPL-HW65ES and your player/AVR with Sony's £350 transmitter/receiver kit. Using Silicon Image's WirelessHD system, it employs a 60GHz connection to stream Full HD video

a hefty sense of 3D space. There's plenty of detail in *Pacific Rim*'s clean HD 3D images too. General sharpness does, however, take a hit at times thanks to the appearance of crosstalk ghosting noise.

As for the design of the projector itself, it combines a big, weighty frame and robust finish with a modern styling. Gentle curves and sharp angles are mixed to attractive effect. A projector of the HW65ES's level really deserves to go into its own dedicated cinema room, but it's pretty enough to support casual 'coffee table' use, too – especially as it comes in a choice of white or black finishes.

## The price is right

And so we get to the most important question: does the HW65ES do enough to justify its £2,800 price? I'd say that, yes, it does.

If you happen to have another £1,200 spare then sure, you could step up to JVC's DLA-X5000 (see HCC #257) – although given that the company's eShift pseudo 4K system doesn't entirely convince me, I'd say the main reason to opt for the X5000 is actually the incredible black level performance you get from JVC's D-ILA optical system plus its HDR support. It's also true that unearthing an extra £3,000 for Sony's native 4K VPL-VW300ES model could be a smart move.

However, even the £1,200 extra you need for the JVC DLA-X5000 represents a huge chunk of change to most hard-pushed home cinema fans. So, for me, this Sony leaves more than enough clear blue pricing water between it and the only significantly better-performing models out there. This ensures that it's still a stellar projector – even without any 4K charms. Proof that there's life in the Full HD dog yet ■

**3. There are RS232, IR and 12V trigger ports for controlled systems**

**4. The throw ratio of 1.36-2.16:1 ensures setup flexibility**

## HCC VERDICT



**Sony VPL-HW65ES**

→ £2,800 → [www.sony.co.uk](http://www.sony.co.uk)

**WE SAY:** An outstanding contrast performance and colour response mark out this Full HD projector as a force to be reckoned with if you can't afford its 4K rivals







Tannoy's new range of speakers aims for greatness. **Ed Selley** investigates

# Children of the Revolution

If you are shopping for an AV pack of speakers, there is no shortage of strong performers vying for your money right now. To further add to your choices, Tannoy has launched its latest flavour of the Revolution series – the XT models – available in stereo and multichannel configs.

While it may retain the Revolution name (Tannoy likes to get a few decades out of a prefix if it can), the XT series is almost completely revised over its predecessor. This certainly sounds revolutionary...

The lineup offers two floorstanding options. There's the smaller XT6F that you see here (£1,000 per pair), and the larger XT8F (£1,300 per pair). These are then joined by two standmount models – the XT6 (£600 per pair) used in the review package and the smaller XT Mini (£400 per pair). The must-have AV element is provided by the £400 Revolution XTC centre speaker (no word as yet if this particular product was designed by Peter Pumpkinhead...).

There is no Revolution subwoofer. As always, Tannoy suggests its TS range of models (in 8in, 10in and 12in flavours) if you want to stay in-house, but you can of course choose to shop about.

In terms of appearance, the speakers are generally what I've come to expect from the brand. By that I mean they are wholly traditional-looking but no less handsome for it. The use of 90-degree corners and flat-sided cabinets might be seen as a little conventional – or even dull – in this day and age, but Tannoy has managed to keep the lines clean and fairly elegant. And the build quality is excellent, while little details like the spike arrangement on the floorstanders are well thought-out. The Dark Walnut finish (pictured) is curious – in some lighting it is so dark as to appear almost black – but the quality of the application is very good. A lighter Medium Oak is also available.

## Dual in the crown

So what's the appeal here? Well, the XT range is the most affordable means of obtaining Tannoy's signature Dual

### AV INFO

**PRODUCT:**  
Floorstanding 5.0 speaker package

**POSITION:**  
Tannoy's mid-range and its starting point for Dual Concentric drivers

**PEERS:**  
Q Acoustics Concept; Quadral Rhodium

1. As well as this Dark Walnut finish, the Revolution XTs can be bought in Medium Oak

**HOME CINEMA**  
Choice  
**BEST BUY**





2

Concentric driver technology. This mounts the tweeter in the throat of the midbass driver for, it's hoped, improved imaging and a wider sweet spot.

The drivers that go into this arrangement are all new, and represent the most significant revision to the overall concept in quite some time. The tweeter is now a torus shape, which allows it to be mounted in more shallow fashion in the centre of the midbass unit. An 'Ogive' (bullet-shaped) phase plug serves to protect it and helps propagate a correct wave form. The central throat has a wider flare than previously. Tannoy says that the result of all this effort is that the dispersion and imaging of the XT series should be superior to preceding models.

Three different sizes of the driver are used in the range and two of them are present in this 5.0 array. The XT6 and XT6F (as the name suggests) use a 6in iteration; the XTC

**'Full of all-round appeal, able to bring excitement to both boisterous blockbusters and soft-spoken TV dramas'**

centre makes do with a 4in version, also used in the standmount surround speaker. The flagship XT8F has an 8in Dual Concentric driver and is a considerably larger speaker as a result.

Tannoy claims that the behaviour of the different-sized drivers is similar enough to make no difference mixing and matching XT models. And by opting for 4in cones, the XTC also avoids a problem periodically encountered with Tannoy packs in the past – namely, centre speakers a little on the vast side...

Other aspects of the design have also been heavily tweaked. The standmount and floorstander sport a downward-firing bass port and integral plinth, giving a boost to bass response and simplifying placement in relation to rear and side walls. As mentioned, the Revolution XTs do without the curved cabinets of more expensive Tannoys but they have non-parallel sides to reduce standing waves. Internally, the crossovers have also been retooled, and although the Tannoy trademark ground-wire connection is missing, the large, high-quality speaker terminals suggest that some effort has been lavished here as well.



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## Living up to its promise

Connected to a Yamaha AV receiver and with a talented BK Electronics P12-300SB subwoofer filling in the low-end, the Revolution XTs make for a stonking listen. The all-new Dual Concentric driver manages to avoid drawing any unnecessary attention to itself as an obvious piece of technology and delivers an extremely coherent performance. The promise of a convincing image and a wide sweet spot is realised very effectively – these are capable of that wonderful trick where audio seems to be dislocated from the physical cabinets. The integration with the centre speaker is also extremely good; there is very little perception that the drivers in the XTC are smaller than in the L/R speakers.

This means that with the demented coach rescue sequence in *Fast & Furious 7* the Tannoys are in their element. There is no difficulty discerning between the different engines in the various vehicles thrashed by Dominic Toretto and his gang, and like a number of Tannoy Dual Concentric designs I've listened to over the years, it has a bit of flair for gunfire. There's a snap and energy to bullet effects as the mountain-road battle ensues that is viscerally effective, and really captures the intensity of the onscreen images.

As a quintet, the Tannoys also have no trouble going very loud indeed. Like much of the brand's stable, the XTs are usefully sensitive, with the XT6Fs claiming 90dB, and show no signs of strain or harshness even when you've given your AVR's volume dial a major tweak. It doesn't really matter how loud or stupid a film you choose to watch with them, they've got you covered.

If you need a little more subtlety though, the system proves to be more than just noisy effects speakers. The final scene of drumming drama *Whiplash* works as a fantastic demonstration that the Revolutions have very good tonality and insight. The divide between the woodwind and brass instruments in the band is tangible; each instrument has a texture and presence. Layering of effects is exceptional too. When Simmons walks over to the drumkit to remonstrate with Teller, his muttered vocals are perfectly distinguishable over the music. It's an assured performance.

This ability to untangle complex soundmixes with effortless levels of headroom is in fine effect in sci-fi flick *Oblivion*. The sequence where Tom Cruise almost comes a cropper in the underground library is impressively atmospheric. The Tannoys place audio details with precision and clarity, and in the context of other sounds. When the scary drone arrives, the sudden increase in level is handled without a trace of hardening up.

With relatively large bass drivers in the front and rear speakers, the Revolution XTs aren't entirely reliant on the subwoofer for low-end heft and have a meaningful impact in their own right. There's a fluidity and linearity to bass notes throughout the audio band.

The centre doesn't sound small despite its dinkier drivers, although with full-blown scenes like the *Oblivion* one, there is the sense that this is the part of the package that will reach its limits first.

Another appealing aspect of the Revolution XTs is that once you have finished driving them with gusto for movie night, you can flick over to broadcast TV, drop the volume and they still deliver most of the qualities they show when pushed hard. The weight and clarity remains, with the XTC making sense of poor dialogue. There is a

## SPECIFICATIONS

### Revolution XT6F

**DRIVE UNITS:** 1 x 6in pulp paper cone bass driver; 1 x Dual Concentric driver with 6in pulp paper cone and 0.79in PEI (polyetherimide) tweeter **ENCLOSURE:** Down-ported **FREQUENCY RESPONSE (CLAIMED):** 38Hz-32kHz **SENSITIVITY (CLAIMED):** 90dB **POWER HANDLING:** 150W **DIMENSIONS:** 269(w) x 1,005(h) x 317(d)mm **WEIGHT:** 16.3kg

### Revolution XT6

**DRIVE UNITS:** 1 x Dual Concentric driver with 6in pulp paper cone and 0.79in PEI tweeter **ENCLOSURE:** Down-ported **FREQUENCY RESPONSE (CLAIMED):** 46Hz-32kHz **SENSITIVITY (CLAIMED):** 89dB **POWER HANDLING:** 120W **DIMENSIONS:** 221(w) x 400.5(h) x 302(d)mm **WEIGHT:** 7.5kg

### Revolution XTC

**DRIVE UNITS:** 2 x 4in pulp paper cone, 1 x Dual Concentric driver with 4in pulp paper cone and 0.79in PEI tweeter **ENCLOSURE:** Rear-ported **FREQUENCY RESPONSE (CLAIMED):** 62Hz-32kHz **SENSITIVITY (CLAIMED):** 89dB **POWER HANDLING:** 120W **DIMENSIONS:** 450(w) x 176.9(h) x 205.6(d)mm **WEIGHT:** 7.9kg

## PARTNER WITH



**TANNOY TS2.12:** Keep your sound system totally Tannoy with the brand's TS2.12 subwoofer. This partners its 12in driver with a 12in passive radiator and 500W amp, and boasts a low-frequency response of 21Hz. Available for around £400.

convincing, wide soundfield on offer even when the input signal is only stereo.

As a final welcome string to an already pretty impressive bow, the XT6F pair make a cracking two-channel music performer, and an interesting counterpoint to the Q Acoustics Concept 40s featured in our previous issue. I'd suggest the Tannoys have more high-frequency energy and a better low-end response than the Concepts but can't quite match the lucidity of the Q Acoustics speakers in the midrange.

## Faster, cleaner...

The use of the same range names for its products can lead to a sense of *deja vu* when a new set from Tannoy appears on the scene. Yet there is little doubt that beyond the reusing of the Revolution moniker, this gang of speakers puts clear air between themselves and their predecessors. The Revolution XTs manage to look, feel and generally behave with all the qualities we associate with the Tannoy brand, but sound faster, cleaner and altogether more energetic. They have all-round appeal, too, able to bring excitement to both boisterous blockbusters and soft-spoken TV dramas.

Throw in the good build, handsome looks and fairly unfussy placement and you have an excellent speaker package. Pricing isn't out-of-this world either. Rather, these are great value for money. Vive la Revolution! ■

**2. Bi-wiring is an option on the XT6F, XT6 and XTC speakers**

**3. Tannoy's Dual Concentric driver mounts a tweeter at the centre of the midbass unit**

## HCC VERDICT



### Tannoy Revolution XT 5.0

→ £2,000 → [www.tannoy.com](http://www.tannoy.com)

**WE SAY:** There's really little to complain about here – these marry detail and precision with an enveloping, dynamic presentation. Add a sub and you're on!

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# The battle of the budget projectors

Seeking affordable bigscreen entertainment, [John Archer](#) auditions five Full HD projectors priced £550-£1,100

## **ACER** V7500

DLP model claiming a 7,000-hour lamp life

## **BENQ** W1110

Image tweaks and install flexibility are on offer here

## **DELL** 4350

With its high brightness, this PJ packs a punch

## **EPSON** EB-U04

Wallet-friendly LCD challenger (pictured)

## **OPTOMA** HD28DSE

Full HD pictures given a Darbee boost

# Acer V7500

Acer isn't the biggest player in home cinema circles, but don't let that put you off this PJ



**WITH ITS ACER** branding and affordable price, my suspicion was that the V7500 would turn out to be a PC projector masquerading as a video one. Happily, my suspicions prove unfounded.

For starters, the V7500's design is very living room-friendly. Its bodywork is finished in a neat-looking gloss white, its sculpting boasts some attractive curves, and a detachable cover over the connections bay down the projector's left side even provides a degree of cable management.

I was impressed, too, to find a vertical image shift wheel tucked into the bodywork above the lens barrel. This handy setup aid is often ignored at the V7500's price point, and improves your chances of not having to use picture-distorting keystone correction.

Optical zoom extends to 1.4x, and there are calibration options including colour, gamma and white balance management.

## Over the rainbow?

The V7500 uses a single-chip, Full HD DLP optical system together with a six-segment RGBRGB colour wheel. A proprietary 'ColourPurity' advanced lamp control aims to reduce single-chip DLP's rainbow effect issue, where stripes of red, green and blue light can appear fleetingly but distractingly over the brightest details in an image.

Other interesting features of the V7500 are a claimed 7,000-hour lamp life using the EcoProjection mode, and LumiSense, where a light sensor in the projector adjusts image

settings to suit the amount of light in your room. After a little experimentation I decided to trust my own eyes rather than LumiSense, but those prone to using a PJ in varied lighting conditions may find it useful.

Although the V7500 supports 3D playback, I wasn't able to test this as Acer didn't provide any 3D glasses (and you don't get any free with the projector). What I can say, though, is that it performs very nicely for its money with the 2D version of *Prometheus*.

It effectively reproduces all the lovely fine detail in heavily-textured, finely-rendered sequences, such as the on-location shots of the Isle Of Skye near the film's start.

There's no sign of edge haloing or artificial sharpening, and sharpness remains mostly intact during motion-heavy scenes. Tracking shots also reveal no serious sign of the fizzing noise over skin tones that single-chip DLP projectors occasionally still suffer with.

The sense of subtle detail is enhanced by the V7500's colour performance. The projector delivers everything from the bold lights of the displays and console lights aboard the *Prometheus* dropship to the landscape tones of ancient Earth with equal and consistent degrees of accuracy, and without the stripes or blocking artefacts that would suggest a shortage of colour tones.

During the first exploration of the alien structure's dark corridors, the V7500 impresses in its black level performance, if you stick with its Eco lamp setting. The relatively low amount of greyiness over black areas

makes it easy to become immersed in the image. There's a decent degree of shadow detail to prevent dark areas going 'flat'.

The V7500 can't completely escape its low price. The biggest issue is the way those same dark corridors exhibit a green undertone I wasn't able to calibrate my way around. There's also subdued evidence of rainbowing over bright peaks, such as the torches the crew use while exploring the alien structure, and – finally – the brightest parts of the image sometimes look a little flared out.

Yet these problems aren't enough to stop the V7500 from being a much more satisfying movie machine than you might expect. That £630 price seems entirely justifiable. A good start to this group test...

## SPECIFICATIONS

**3D:** Yes. Active

**4K:** No. Full HD, 1,920 x 1,080

**CONNECTIONS:** 2 x HDMI inputs; 1 x USB port; 1 x composite video; 1 x component video; 1 x VGA input; 1 x audio line input; 1 x audio line output

**BRIGHTNESS (CLAIMED):** 2,500 Lumens

**CONTRAST (CLAIMED):** 20,000:1

**DIMENSIONS:** 485(w) x 182(h) x 308(d)mm

**WEIGHT:** 3.1kg

**FEATURES:** DLP projection system; built-in speakers; anti-rainbow effect system; claimed 7,000-hour lamp life; cable management system; 1.4x optical zoom; throw ratio 1.07-1.45:1; vertical image shift



# BenQ W1110

Another impressive DLP model from the home cinema-centric Taiwanese corp



**WHILE THE W1110** doesn't sport the impressive Cinematic Colour feature of BenQ's step-up W2000 model (more on this in a moment), it's still got plenty of home cinema credentials to its name.

The design is perfect for a coffee table, for instance, thanks to a diminutive footprint and its slick combination of gloss-white main bodywork and a silvery front edge.

This DLP Full HD model is fairly easy to set up too. There's a reasonably flexible 1.3x optical zoom, 12V trigger and – like the Acer V7500 – the unexpected but welcome provision of a vertical image shift wheel.

As with the Acer, the W1110 supports 3D, but doesn't ship with glasses.

The six-segment RGBRGB colour wheel hasn't been designed to deliver accurate REC.709 colour out of the box like the one in the BenQ W2000 (the aforementioned Cinematic Colour feature), but a long line of calibration tools will let you work your way close to REC.709 if that's your desire.

First impressions of the W1110's pictures aren't great, chiefly because dark scenes like the one in the relic chamber in *Prometheus* don't convince. Even using the Cinema default setting, the chamber looks rather empty and hollow, as well as somewhat greyed over.

Fortunately, after extensive playing with the W1110's settings, I managed to get a balance of black level depth, brightness and shadow detail that worked. But the process would have been easier if BenQ had made the contrast and brightness gradation steps finer.

For the record, I'd recommend setting contrast to 49, brightness to 51, the gamma to 2.1 and, most importantly, the lamp to its adaptive Smart Eco mode.

## A marked improvement

With the initial contrast issues ironed out, the W1110's pictures spark into life. That relic chamber now looks much more cinematic – not quite as rich in black level as it does on the V7500, but more neutral as the blackness remains free of the Acer's green subtone.

The alien ship's 'bridge' also enjoys good scale thanks to what is now decent shadow detailing in dark backgrounds.

I was also impressed by how well the Smart Eco lamp setting works. Often these sorts of 'dynamic' light management systems are too aggressive, yet the one on the W1110 just delivers a punchier, more contrasty image without causing any major unwanted side effects.

Detailed images don't look quite as crisp on the W1110 as they do on the V7500, but they're still well-etched and definitively Full HD. Pixel finery is joined/enhanced by some accomplished colour handling, combining vivid tones with smooth blends and tonal subtlety. This even extends to the icky mix of greys, blacks and whites you get when the face-hugger attacks the alien engineer.

The W1110's calibrated pictures are slightly brighter looking than the Acer's. This makes it potentially better-suited to rooms where it's hard to achieve complete darkness. And

## SPECIFICATIONS

**3D:** Yes. Active

**4K:** No. Full HD, 1,920 x 1,080

**CONNECTIONS:** 2 x HDMI; 1 x composite video; 1 x component video; 1 x VGA input; 1 x audio line input; 1 x audio line output; 1 x USB A; 1 x USB B; 1 x RS-232; 1 x 12V trigger

**BRIGHTNESS (CLAIMED):** 2,200 Lumens

**CONTRAST (CLAIMED):** 15,000:1

**DIMENSIONS:** 380.5(w) x 121.7(h) x 277(d)mm

**WEIGHT:** 3.3kg

**FEATURES:** DLP projection system; built-in speaker; anti-rainbow effect system; 6,000-hour lamp life in Eco mode; 1.3x optical zoom; throw ratio 1.15-1.5:1; vertical image shift; dynamic contrast system

despite this extra brightness, the BenQ also suffers slightly less often and less obviously with rainbowing over *Prometheus*' light peaks.

The W1110 also earns kudos for its low input lag figure of 10ms (versus a still very credible 30ms on the Acer), and for running unusually quietly.

Occasionally, during very dark or very bright sequences, I spotted a slight infusion of red in the image's upper right quadrant, and mid-dark shots can sometimes showcase noise. Neither of these issues show up often enough to stop the W1110 from being an appealing proposition. Just be prepared to have a tinker with its image parameters to get the best out of it.

# Dell 4350

This macho-looking model is costlier than its rivals, but outshines when it comes to brightness



**WITH ITS £1,100** price tag, the Dell 4350 is comfortably the most expensive projector in this group test. Which means it had better also be the best.

It certainly stands out aesthetically. Its deep black, sharply angular bodywork looks startling versus its rivals. And it backs up the macho looks with some aggressive specs.

A huge claimed 4,000 Lumens of brightness from the single-chip DLP engine could make the 4350 the best option for a bright room. At the same time, though, the claimed contrast ratio of 2,200:1 is worryingly low for a home cinema PJ.

In fact, while the Dell 4350 is pitched as being a good video model and opts for a video-centric 1,920 x 1,080 native pixel count, it also claims to be well suited to business presentation duties. While I'm not really bothered about these skills in most ways, the 4350's dual-purpose nature is backed up by handy support for the MHL protocol, so it can display stuff stored on your mobile phone.

Also present and correct is 3D support (though again no 3D glasses were available for testing), and a dynamic lamp mode that auto-adjusts light output to suit the content being shown. Less pleasing, especially given how expensive it is, is its lack of any vertical image shifting.

## Falling short

The Dell 4350's picture quality is striking in some ways, but ultimately falls short of the best rivals in this roundup.

As you'd expect, the projector's high light output delivers pictures that look intensely bright in dark rooms and remain unusually watchable in rooms that still have a degree of ambient light in them. This latter trick certainly gives it a unique selling point within this group test.

It also delivers *Prometheus*' BD pictures with tasty amounts of detail and sharpness. The decapitated alien head and creepy creatures all (disturbingly) look so crisp and textured you feel like you could reach out and touch them, while classic HD details like skin pores and beads of perspiration are all clearly crafted.

And the 4350 handles motion quite nicely. It exhibits very little judder or DLP fizzing noise, even as Elizabeth (Noomi Rapace) hurtles towards the surgical machine...

Yet two substantial weaknesses stand between the 4350 and the winner's throne here. First, from the opening 'early planet' landscape shots through to the artificially-lit interiors of the *Prometheus* transport (especially on the holodeck), the projector struggles to deliver colours with the same level of balance, subtlety and naturalism as the Acer and BenQ rivals. Even after tinkering with the colour management tools, colours still lack finesse.

## Deep in the darkness

The other issue is shadow detail. For such a bright projector, the 4350 has a good stab at reproducing a decent grey-free black colour

## SPECIFICATIONS

**3D:** Yes. Active

**4K:** No. Full HD, 1,920 x 1,080

**CONNECTIONS:** 2 x HDMI; 1 x composite video; 1 x VGA input; 1 x VGA output; 1 x audio line input; 1 x audio line output; 1 x USB B; 1 x RS-232; 1 x Ethernet port

**BRIGHTNESS (CLAIMED):** 4,000 Lumens

**CONTRAST (CLAIMED):** 2,200:1

**DIMENSIONS:** 324(w) x 95(h) x 250(d)mm

**WEIGHT:** 3kg

**FEATURES:** DLP projection system; built-in speakers; streaming dongle support; 4,000-hour lamp life in Eco mode, 1.36x optical zoom, throw ratio 1.068-1.45:1; dynamic contrast system

during *Prometheus* many dark shots, but it struggles to retain any picture information in the blackest picture areas. These forced blacks are joined, moreover, by strained peak whites that look blown out and low on detail. The result is a picture that appears unnaturally stretched and artificial. Plus there's a slight infusion of green in dark scenes reminiscent of the effect witnessed on the Acer.

Dell's 4350 lets me finish on a high by running decently quietly and only suffering around 30ms of input lag. But I can't get past the fact that unless you particularly need a very bright projector, or want a model that offers additional connectivity, it doesn't do enough to justify its relatively high cost.



# Epson EB-U04

As a flag-flyer for LCD projection tech, this budget beamer doesn't make the best impression



**YEP, YOU READ** that right: Epson's EB-U04 costs just £550, making it crazy cheap even by the standards of this budget battle.

And despite its affordability, it still boasts a Full HD resolution, all the usual home cinema-friendly connectivity, and a promising 15,000:1 claimed contrast ratio assisted by an auto iris adjustment. So what's the catch?

Well, its design definitely isn't the best. The small chassis looks a little cluttered and utilitarian, and the diminutive lens doesn't bode especially well for picture quality. In short, it looks more like a presentations projector than a home cinema one. And this impression isn't helped by the discovery that the EB-U04's resolution is based on a 16:10 aspect ratio (1,920 x 1,200 pixels) more suited to PC sources than the 16:9 ratio associated with Blu-rays.

The EB-U04's 3,000 Lumens brightness also hints at a potential data rather than video heritage. Yet unlike in the Dell's case, this figure is dwarfed by the contrast ratio, so it promises to do dark movie scenes justice despite its punchy lamp.

Epson's model doesn't carry the vertical image shifting found on some of the other projectors in this group test. Nor does it support 3D playback. And it further differs from the previous three projectors by using an LCD optical system, meaning you won't have to worry about the rainbow effect issue you can get with affordable DLP solutions.

However, the EB-U04's picture performance also reminds us of one of LCD's

typical shortcomings versus DLP tech: uninspiring contrast...

## Fifty shades of grey?

The fact that much of my chosen demo movie takes place in dark corridors or low-lit rooms soon exposes the EB-U04's inability to deliver deep blacks. In this regard, it isn't anywhere near as successful as its DLP challengers. Everything in *Prometheus* that should look black looks grey-blue instead. And the sense of scale in its large, dimly-lit locations is severely reduced; the greyness hides the detailing that helps give these locations their immersive dimensionality.

The EB-U04 doesn't deliver quite such an acute sense of sharpness from the largely impeccable *Prometheus* transfer, either. The porcelain-like finish of the 'Engineers' skin, and the alien landscapes, have less of an eye-opening impact here. And action scenes, such as the return to the drop ship through the storm, reveal traces of motion blur from the EB-U04's LCD engine. That said, while not quite as pin-sharp as the DLP models, Blu-ray imagery always look assuredly HD.

The Epson's pictures look very bright for such an affordable projector, making it a more wallet-friendly bright-room option than the Dell 4350. Furthermore, it's nice to witness bright highlights appearing without any rainbow effect at all. Light glints off astronauts' helmets without distracting colour flitting.

A passably low input lag measurement of 40ms raises the prospect of the EB-U04

delivering largescreen gaming thrills too. However, its contrast shortcomings won't exactly enhance your enjoyment of cinematic titles like (continuing the *Prometheus* theme) *Alien: Isolation*.

One final aspect of the EB-U04's performance I should raise is another negative one: running noise. The onboard fans kick out more racket than I felt comfortable with, joining the contrast issues in making it hard to fully engage with *Prometheus* world.

This makes the PJ hard to recommend – even considering that its lamp life is rated at a monstrous 10,000 hours maximum. Rival budget machines – including Epson's own EH-TW5300 (reviewed in HCC #256) are better options.

## SPECIFICATIONS

**3D:** No

**4K:** No. 1,920 x 1,200

**CONNECTIONS:** 2 x HDMI; 1 x composite video; 1 x VGA input; 1 x audio line input; 1 x USB A; 1 x USB B; 1 x Ethernet port

**BRIGHTNESS (CLAIMED):** 3,000 Lumens

**CONTRAST (CLAIMED):** 15,000:1

**DIMENSIONS:** 297(w) x 77(h) x 244(d)mm

**WEIGHT:** 2.6kg

**FEATURES:** LCD projection system; built-in speaker; up to 10,000-hour lamp life in Eco lamp; 3,000 Lumens colour light output (CLO) 1.2x optical zoom; throw ratio 1.38-1.68:1; dynamic contrast system; digital keystone correction

# Optoma HD28DSE

There's potent processing to play with here – but is that reason enough to buy?



**ONE THING YOU** don't find much of in the budget projection market is video processing. The DLP-based Optoma HD28DSE, though, is the exception that proves the rule, as despite costing only £700 it comes armed with DarbeeVision's powerful and acclaimed Visual Presence (DVP) engine.

DVP employs proprietary algorithms to try to improve the sense of depth and detail in images, regardless of the HD28DSE's native Full HD resolution. This sounds impossible, I know. But there are other systems out there – especially in the high-end TV world – that deliver a similar effect surprisingly well. So hopefully DVP will, too.

And it's not the only promising discovery on the HD28DSE's spec sheet. A 3,000 Lumens brightness figure and 30,000:1 contrast claim both appear suited to a dynamic movie experience; it's capable of playing 3D (and for once I was supplied with a pair of 3D glasses); and its connections include MHL mobile phone 'streaming' and a powered USB port for handling stuff like a Chromecast dongle or Amazon Fire TV stick.

The HD28DSE rounds off its appeal with a curvaceous, white-clad design. But this bodywork doesn't find space for any vertical image shifting, and only offers a very limited (1.1x) amount of optical zoom.

## Working with DVP

Initially it looks as if the DVP engine isn't working out at all. While there's no doubt *Prometheus*' contrasty images are

exceptionally dynamic, with very bright light peaks and potent colour saturations, there's a niggling lack of shadow detail. Bright image elements 'spike' outside their boundaries too, and there's sometimes bizarre blocking noise over mid-bright shots.

Yet these problems can be largely cancelled out by careful tweaking of the DVP settings. For a noisy source, choose the Hi-Def mode and reduce its power to below its 50 level. For a good-quality video source like *Prometheus*, stick again with the Hi-Def mode, but set it higher, perhaps up to its 90 level. The Gaming DVP mode is worthwhile for console and PCs (especially as it limits input lag to 30ms), but doesn't work well for video.

Obviously it's annoying you have to keep revisiting the DVP adjustments for different types/qualities of image. But the bottom line is that when set up right DVP really can boost your enjoyment.

Sharpness with scenes like the ultra crisp-looking holodeck sequence seems remarkable – almost UHD-like at times. And this is achieved without causing significant amounts of unwanted noise. There's a boost to dynamic range too, stretching the luminance range of mid-bright scenes without making the image appear forced.

The HD28DSE reminds me how fun 3D can be too. *Prometheus* features bright, crisp, punchy images largely free of crosstalk.

In fact, at times the HD28DSE delivers the most impactful pictures in this group test. However, it also suffers two significant

problems. First, I noticed more rainbow effect than with the BenQ, Acer or Dell projectors; tell-tale stripes of red, green and blue popped up regularly during challenging, high-contrast images. Second, despite that 30,000:1 contrast claim, the HD28DSE's delivery of dark scenes were rather washed out. You can improve black levels if you use the Optoma's Dynamic Black auto system, but this proved jarring, shifting brightness with a lack of subtlety. I preferred to leave it off.

The HD28DSE is a worthwhile member of the affordable market, with its processing engine bringing something unique to the table. Yet more refinement in the implementation of DVP would help – as would more native black level response. Bring on the HD28DSE v2...

## SPECIFICATIONS

**3D:** Yes. Active

**4K:** No. Full HD, 1,920 x 1,080

**CONNECTIONS:** 2 x HDMI; 1 x VGA input; 1 x audio line output; 1 x USB A; 1 x 12V trigger; 1 x 3D Sync port; 1 x USB service port

**BRIGHTNESS (CLAIMED):** 3,000 Lumens

**CONTRAST (CLAIMED):** 30,000:1

**DIMENSIONS:** 315(w) x 114(h) x 224(d)mm

**WEIGHT:** 2.58kg

**FEATURES:** DLP projection system; built-in speakers; up to 8,000-hour lamp life in Eco lamp mode; 1.1x optical zoom; throw ratio 1.48-1.62:1; dynamic contrast system; DarbeeVision Visual Presence processing; MHL support



# Final standings

**IT'S BEEN REFRESHING** to find that there are budget projectors out there designed from the ground up to take home entertainment seriously; they're not all just misappropriated data projectors. Yet one contender that does feel like it's predominantly a data diva first is the Epson EB-U04. It might be worth considering if you want a projector for a regularly quite bright environment, but otherwise it just doesn't have the contrast to do your disc collection proud.

Dell's 4350 is something of an all-rounder, able to present films reasonably well, efficient in a bright room and well-connected. However, it's not the best performer here, and easily the most expensive.

## Tough at the top

Third place is awarded to the Optoma HD28DSE. Again, this model has a unique attraction: video processing from Darbee. This delivers some startling results, especially when it comes to sharpness. However, the PJ is labour intensive if you want to always get the best from it, and it struggles in the contrast and DLP rainbow effect departments.

Picking between the Acer V7500 and BenQ W1110 for top spot is tricky. The Acer offers deep black levels and incredible sharpness, while the BenQ does excellently natural colours, slightly more brightness (making it more adaptable to different rooms) and less rainbow effect. The only thing that stopped me from calling it a draw is the tendency of the Acer to leave dark scenes looking a tad greener than they should, leaving this group test's champion as the BenQ W1110 ■



## HCC VERDICT

### BenQ W1110

→ £660 → [www.benq.co.uk](http://www.benq.co.uk)



### Acer V7500

→ £630 → [www.acer.co.uk](http://www.acer.co.uk)



### Optoma HD28DSE

→ £700 → [www.optoma.co.uk](http://www.optoma.co.uk)



### Dell 4350

→ £1,100 → [www.dell.co.uk](http://www.dell.co.uk)



### Epson EB-U04

→ £5,50 → [www.epson.co.uk](http://www.epson.co.uk)



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We dig in to the  
final film in *The  
Hunger Games*  
series p98

1

2





The latest 4K TV from Philips has killer looks, but will **John Archer** find anything else to get excited about?

# 4K TV better by design?

When it comes to TV design, Philips has an almost unfair advantage. After all, no other brand offers Ambilight, where the screen's rear edges are fitted with LED lights able to cast colourful auras that can accurately match the tones and variations of the pictures you're watching. It's a long-running USP, and one that we're routinely impressed by.

With Philips' 55in 55PUS8601, a four-sided Ambilight system is just the start of its design charms. It also graces the flatscreen catwalk with an incredibly thin frame and slim rear (off its stand it measures less than 17mm deep), and is dressed in a slick combination of deep black and dark chrome details. And best of all it delivers its audio via a pair of tidy-looking metallic speakers that attach magnetically to the bezel's edges. These can also be slotted – wirelessly – into separate, optional floorstands.

The speakers, slender and chrome-finished, carry 18 drivers claimed to pump out 50W of forward-firing sonics. The external floor mounts for these boost the power, adding more bass and mid-range capacity.

## Posh and specs

The posh feel created by the 55PUS8601's design is backed up by its picture specifications and features. It's a 4K UHD TV (natch), and will also play High Dynamic Range (HDR) content following a firmware update later this year. The edge LED lighting system features Philips' BrightPro technology, which divides pictures into more than 6,000 zones for accurate analysis and localised control.

The screen is rated as being capable of delivering a high 700 nits of brightness, which should serve its HDR ambitions well, especially as the 55PUS8601 also claims a dynamic contrast ratio of 500,000:1. Mind you, even this level of specification doesn't meet the requirements of the recently announced Ultra HD Premium 'standard'.

Pictures are driven by Philips' top-level Perfect Pixel Ultra HD processing suite. Among the headline tricks of this comprehensive image engine are a motion compensation setup that emulates an 1,800Hz refresh rate; a new noise reduction system that works to eliminate noise from sources without causing blurring or smearing side effects; and a colour processing tool to upconvert 8-bit sources for smooth blends and shifts. The set carries

enough calibration niceties to earn itself ISF certification, with two ISF preset slots provided.

The 55PUS8601's smart system is a fairly premium affair, built around Google's Android TV platform. I'm not actually a huge fan of Android TV, finding its lack of customisation and excessive app numbers running counter to the sort of slick, stripped-back interface I want. And at the time of writing, Philips' on-demand content options were on the sparse side; the ITV Player, All 4 and Demand 5 were all MIA. So was Amazon Video, but this is promised as an update. The Netflix client is 4K-enabled and BBC apps are present. Google Play Movies provides another avenue. And Philips' implementation of Android TV runs more stably than the one Sony has integrated into its TVs.

## Space invaders

Looking past the TV's extravagant exterior to the pictures within, while they have their moments, they don't set the world alight as much as I'd hoped.

Sandra Bullock is a regular visitor to my demo room. Sort of. The sequences of her spinning in space in *Gravity* can help prove the mettle of a TV's illumination/black level talents, so I always have that BD on standby. And with the 55PUS8601 I failed to find the black level depth buyers have come to expect from the best edge LED TVs these days. The supposedly inky blackness of space is muted, grey-tinged. This makes it hard to fully engage with the action.

This *Gravity* moment, with its white-suited astronaut at the centre of a mostly black screen, also reveals some areas of backlight clouding/unevenness on the Philips. This is more noticeable if you use the TV's Movie preset, which essentially turns off most of the video processing.

Reduce the screen's backlight output and you can minimise the clouding and limit the sense of greyness

### AV INFO

**PRODUCT:**  
55in 4K TV with four-sided Ambilight and HDR support

**POSITION:**  
One step down from the top of the latest Philips range

**PEERS:**  
Sony 55X8505C;  
Samsung UE55JS8500

1. The TV has an ultra-thin bezel

2. Audio comes from detachable side-mounted speaker bars

3. The smart dual-faced remote has a QWERTY key array





## SPECIFICATIONS

**3D:** No **4K:** Yes. 3,840 x 2,160 **TUNER:** Yes. Freeview HD; DVB-S2 **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; 1 x Scart; 1 x RF input; 1 x Ethernet; 1 x optical digital audio output; 1 x analogue audio input; 1 x component video input; 1 x headphone output; 1 x satellite input **SOUND:** 50W **BRIGHTNESS (CLAIMED):** 700 nits **CONTRAST RATIO (CLAIMED):** 500,000:1 **DIMENSIONS (OFF STAND):** 1,227(w) x 709(h) x 17(d)mm **WEIGHT (OFF STAND):** 19kg

**FEATURES:** USB multimedia playback; DLNA playback; Perfect Pixel UHD processing; Four-sided Ambilight; detachable wireless speakers; Android TV smart system; HDR ready; HDCP 2.2 on HDMI 1

## PARTNER WITH



**NETFLIX:** £8.99 per month gets you a 4K subscription and plenty of native content to view on Philips' UHD TV via the integrated app. The global streaming service is promising HDR content down the line, too

4

over dark areas. But you've then lost much of the brightness that's one of the TV's key selling points. And once the HDR update comes along, ripping luminance out of the image will be even less of a desired option.

There's a Contrast Mode that can improve black depth if you choose its Best For Picture option, but unfortunately this feature tends to make dark scenes look quite unstable due to its constantly fluctuating light levels.

With the TV set up to deliver what felt like the best black level/stability/brightness balance, the rich starscapes of *Gravity* lost some low-light details and gradation subtleties in the darkest areas.

## 'This TV's innovative design and bold features – including Ambilight – are a strong statement of intent'

Yet while contrast can be bettered elsewhere, the 55PUS8601 is capable of some really impressive picture moments, especially with native 4K sources. My stock UHD reels from *The Life Of Pi* and *Exodus: Gods And Kings* were little short of magnificent in many ways. Detail and sharpness levels are superlative – looking beyond 4K at times – and colours rendered with a degree of tonal subtlety that further underlines the screen's inherently high resolution.

### Moving on up

Philips' long experience with motion processing plays out well with native 4K content. Crispness isn't reduced when there's lots of movement in the frame. I wouldn't advise buyers to employ the highest level of the Perfect Natural Motion feature, as this throws up some enjoyment-sapping side effects, but the processing is definitely worth at least experimenting with on its mid and low settings. Even if you typically avoid such intelligent smoothing engines on principle.

The 55PUS8601 doesn't upscale non-4K content particularly well, tending to either exaggerate source noise too much, or leaving pictures feeling a bit soft, depending

on the exact settings you've got selected. Plus, colours look less natural and nuanced than they do with native 4K sources. With the latter, *Life of Pi*'s zoo and daytime sea sequences are painted with richness and dynamism (perhaps too much when the Colour Enhancement tool is activated).

Non-4K sources often seem a little cooked-up too. I spent an age experimenting with all the Perfect Pixel Ultra HD tools and options, but as well as this representing a level of effort beyond anything most people will want to get involved with when using a TV, my efforts never resulted in a fully natural-looking non-4K picture.

There's no 3D functionality here. For most buyers this won't matter a jot, but genuine home cinema enthusiasts may think twice about investing in a set that cocks a snoot at a chunk of their disc library. They should also note that only one of the Philips' quartet of HDMI inputs is specified to support the HDCP 2.2 copy protection protocol.

The TV's innovative speakers are more consistently excellent than its images. These combine pleasing levels of detail with a lovely rounded tone for dialogue. There's, an expansive and open mid-range, plus enough power to hit high volumes without sounding strained. The forward-firing and side-mounted nature of the speakers makes the sound punchy and wide too, and while bass (delivered by a pair of rear-mounted woofers) doesn't reach especially deep, there's enough of it to stop the soundstage appearing thin.

While the Philips 55PUS8601 isn't best-in-class, I'm always pleased to see the brand flexing its muscles in the UK. This TV's innovative design and bold features, including Ambilight, are a strong statement of intent. Future HDR support and better VOD app integration will strengthen its appeal further, and it has brightness and impact on its side ■

4. The TV hides twin low-frequency drivers around the back

## HCC VERDICT



### Philips 55PUS8601

→ £1,700 → [www.philips.co.uk](http://www.philips.co.uk)

**WE SAY:** Ambilight and detachable speakers make this one of the most striking 4K TVs around. Its pictures aren't perfect, but they're bright and punchy, and it's decently priced



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# Single bar sounds sweet enough

Yamaha claims the YSP-1600 kills the need for surround speakers courtesy of some clever DSP and its multidriver array. **Mark Craven** puts it to the test

**ANYONE DRAWING UP** a mid-range/premium soundbar shortlist will no doubt be intrigued by Yamaha's YSP-1600. Selling for £500, it shares some of the DNA of the brand's higher-end models (the YSP-2500 and YSP-5600) but leaves more cash in the bank for Blu-rays. There are plenty of other prospects at this price, however, so can the soundbar do enough to make it an essential audition?

## Box of tricks

Yamaha describes the design as 'slim', but I'd argue that's stretching the terminology a bit. The 6.5cm height didn't pose any problems for me in terms of blocking a TV's IR sensor, yet the design is boxy rather than curved or angular. It feels pretty solid, though, and there's a decent amount of space where the rear connections are to make source hookup easy. And it's relatively well-connected. An optical digital audio input provides a simple connection to a TV (and there's a cable bundled in the box), while a single 4K/HDCP 2.2 HDMI input is there for external devices. More would have been welcome considering the price.

The adjacent HDMI output supports ARC. Further inputs are an analogue audio minijack, Ethernet port and a sub output.

The latter is there because, unlike the costlier YSP-2500, this model ships without a subwoofer. Instead, the YSP-1600 mounts

twin 3.25in bass drivers, rated at 30W-a-piece, at either end of its metre-long cabinet. Centrally positioned, and front-facing, are eight 1.1in beam drivers.

Wi-Fi and Bluetooth are built in, making the soundbar a decent music playback alternative. Indeed, another bonus feature of the YSP-1600 is its integration into Yamaha's MusicCast multiroom eco-system. Essentially, the means the 'bar doubles up as a zone speaker in a MusicCast setup, drawing from additional sources including Spotify Connect and AirPlay. See p66 for more.

## Diesel power

I began by connecting the YSP-1600 via optical to a Samsung TV, and fed it a Sky HD showing of the long-forgotten Vin Diesel sci-fi *Babylon AD*. I was rewarded with an enthusiastic and relatively dynamic sound. Diesel's gruff dialogue was well-projected and resonant. Meanwhile, the packed locales of the dystopian future Manhattan buzzed with detail effects. The sounds of Diesel chopping up and pan-frying a rabbit in red wine made me hungry. High-frequencies are crisp, bordering on bright.

With the Blu-ray of Ridley Scott's *The Martian* (p101) via HDMI, the impressive low-end punch of the YSP-1600 came to the fore. There's a nicely rounded nature to the Yamaha's bass, and it mixes with the higher frequencies well, as opposed to some systems where the separate bar and woofer can sound like distant cousins. The frequency response is rated at down to 50Hz, which isn't monstrously low, but I'd suggest only those stepping down from a dedicated woofer will feel short-changed; there's enough

### AV INFO

**PRODUCT:**  
Beam array soundbar

**POSITION:**  
Mid-range, but part of Yamaha's MusicCast line

**PEERS:**  
Orbitsound A70;  
Sony HT-RT5;  
Q Acoustics Media 4







depth here to lend cinematic impact to the stranded astronaut's endeavours, and a whole load more than whatever your flatscreen TV is proffering. When the MAV conducts its rocket-powered takeoff, the Yamaha has sufficient grunt to capture the scale of the event.

At the left-side of the soundbar's fascia is a bank of green-glowing status LEDs. These provide an overview of what the bar is doing – e.g. whack up the volume and they flash in sequence left-to-right – but I doubt you'll remember which individual one represents which source. It's easier to hit the button on the handset to make sure.

Also on the zapper are a subwoofer level adjustment, and keys for the YSP-1600's sound presets. These are Movies, Music, Game, Sports and TV Program. The Music setting is the most aggressive, imparting an echoey, phasey quality that's presumably meant to simulate a live performance. With music it's a bit odd; use it with TV or

**'This is an enjoyable listen, multiroom-ready, with a beefy and detailed output well-suited to movie night'**

film material and it's unpleasant (hi-fi purists can opt to run the soundbar in straight stereo). Differences between the others are more subtle. I was happy to leave it on Movie.

With the soundbar connected via HDMI you can call up an onscreen display. This makes tweaking easier than using the handset, but the interface is still achingly old-fashioned.

In terms of output, this Yamaha hits the mark. I found it could be pushed without fear, retaining its balance and clarity as the volume creeps higher. *The Martian's* repetitive score finds the YSP-1600 offering decent mid-range presence, although it's not the most musically-minded performer out there. Barb Jungr's easy-on-the-ear Dylan cover *Sara* (SACD, Linn Records) enjoyed a robust bottom end but needed more subtlety in the vocals and piano.

Regarding the 'bar's surround sound ambitions, I'd warn buyers to dampen their expectations. While the YSP-2500 and YSP-5600 pack 16 and 44 beam drivers respectively, this unit offers eight, thus giving Yamaha's time-/direction-controlling DSP less to work with. Furthermore, there's no IntelliBeam automatic room analysis here to help you out.

## SPECIFICATIONS

**DRIVE UNITS:** 2 x 3.25in woofers; 8 x 1.1in beam drivers **POWER (CLAIMED):** 80W (8 x 2.5W plus 2 x 30W) **CONNECTIONS:** 1 x HDMI input; 1 x HDMI output (ARC); 1 x optical digital audio input; 1 x Ethernet; 1 x analogue audio minijack; 1 x USB service port; 1 x subwoofer output **BLUETOOTH:** Yes **WI-FI:** Yes **DOLBY TRUEHD/DTS-HD MA:** No/No **SEPARATE SUBWOOFER:** No (phono output) **REMOTE CONTROL:** Yes **DIMENSIONS:** 1,000(w) x 65(h) x 130(d)mm **WEIGHT:** 4.7kg

**FEATURES:** MusicCast integration; three-preset beam array selection; Music, Movie, Game, Sports and TV presets; Clear Voice mode; 4K & HDCP 2.2 HDMI; Bluetooth transmission; app control; 50Hz-22Hz claimed frequency response

## PARTNER WITH



**BOWERS & WILKINS P5 WIRELESS:** For solo movie-watching, the YSP-1600 can stream to Bluetooth headphones. These comfy, over-ear cans from B&W use 40mm drive units and claim a 17-hour battery life. Priced at around £330.

Installation is more prosaic – you place the bar and see what happens, making use of three settings (Left, Centre, Right) depending on whereabouts along your front wall the YSP-1600 is installed. And you'll need side and rear walls to bounce the bar's soundbeams – corner placement is a no go – and pay heed to Yamaha's room dimension requirements (e.g. no ceiling higher than 11.5ft). There's a channel level adjustment that is handy here, as you can use it to isolate the surround left/right channels to get a sense of where they are coming from. And having control over the centre channel is useful if you want to give dialogue a bump.

So, does it work? Well, I never got it delivering a wraparound performance I was entirely satisfied with, even after studious placement, but there's certainly an immersive soundfield here, as opposed to the experience of merely being shouted at by a box at the other end of the room. During the Matt Damon sci-fi, I was routinely surprised by the YSP-1600's ability to place me amidst the swirling dust of the Martian storms, or to place effects with pleasing precision (such as a warning alarm that beeped insistently behind my left ear). However, sequences that feature really specific audio pans weren't its forte. In the guinea-pigs-as-spies kid's caper *G-Force*, a maelstrom of tumbling coffee beans, as the heroic rodents try to escape a pet shop, teases directionality, but is more diffuse than direct. It made for an interesting comparison with Sony's HT-RT5 tested last issue: that model's use of physical surrounds is more effective. But, obviously, more of an installation faff.

This doesn't mark the YSP-1600 down as a lost cause, though. Far from it, in fact. This is an enjoyable listen, multiroom-ready, with a beefy and detailed output that'll easily rustle up thrills come movie night and works reasonably well with music. Some systems may come unstuck by the meagre HDMI connectivity, though ■

**1. The YSP-1600's woofers are mounted at either end; eight beam drivers take centre stage**

**2. The fun-size zapper covers most functionality, but using the onscreen UI makes things easier**

## HCC VERDICT



### Yamaha YSP-1600

→ £500 → [www.uk.yamaha.com](http://www.uk.yamaha.com)

**WE SAY:** The surround feature of the YSP-1600 isn't entirely convincing, but this is a commendable £500 soundbar. MusicCast functionality is a boon; the lone HDMI input less so

# All that glitters...

If an £800 58in Ultra HD TV sounds too good to be true, that's because it is, reckons **John Archer**, as he struggles to ascertain where this set's HD tuner has got to

## HOOK, LINE &...

Stinker? Fantasy prequel *Pan* aims to win fans on 3D BD p97



Bush's budget TV sits on a glass-topped stand

**THE BUSH LE-58GCL'S** appeal is almost brutally simple. It combines a 58in, 4K-resolution screen with a price tag of £800. Bish bash bosh/Bush. But this really isn't the irresistible bargain it first appears.

Firstly, this TV's design is a mixed bag. On one hand its bezel is on-trend slim and its glass-covered desktop stand feels surprisingly posh. However, that bezel looks and feels pretty plasticky, and lacks any sort of flair.

Surprisingly, the 58GCL's connections include not just four HDMI inputs but four HDMI inputs built to the v2.0 standard and claiming HDCP 2.2 support, indicating acceptance of 4K streams at up to 60 frames a second. Plus there's a USB for multimedia playback or recording to a USB hard drive, and an Ethernet port for... actually pretty much nothing. It turns out the TV can't stream

from DLNA-enabled devices in your home, or go online. This means no smart TV features and no streaming – including no chowing down on Amazon or Netflix's 4K content. In other words, it's a 4K TV that's waiting for external sources.

Amazingly the Bush's tuner isn't even HD (never mind 4K). So when you're watching digital broadcasts you'll have to watch grubby standard-definition digital pictures that have gone through a budget TV upscaling engine.

## Turn off for tweakers

The 58GCL is severely lacking in picture calibration tools. You don't get a backlight adjustment, never mind such niceties as colour or gamma management.

It's also no shock to find the 58GCL picture quality failing to inspire. Watching anything through that SD tuner is a pretty unpleasant experience, as the panel's upscaling processing fails to successfully calculate the extra pixels necessary to turn SD images into delectable 4K ones.

To be fair, no 4K TV has done a really convincing job of upscaling standard-def.

## SPECIFICATIONS

**3D:** No **4K:** Yes, 3,840 x 2,160

**TUNER:** Yes, Freeview (not HD)

**CONNECTIONS:** 1 x USB port; 4 x HDMI inputs; 1 x component video input; 1 x Ethernet port; 1 x composite video input; 1 x Scart input; 1 x optical digital audio output

**SOUND:** 2 x 3W; **BRIGHTNESS (CLAIMED):** N/A

**CONTRAST RATIO (CLAIMED):** N/A

**DIMENSIONS (OFF STAND):** 1,310(w) x 780(h) x 100(d)mm **WEIGHT (OFF STAND):** 23kg

**FEATURES:** Noise reduction; motion processing; HDMI 2.0 inputs; multimedia playback via USB; external HDD recording

But that just makes the lack of an HD tuner look all the more nuts.

The TV fares better processing HD sources (Blu-rays or external HD receivers/streamers). It doesn't add much detail, leaving images looking more HD than 4K, but neither does it exaggerate noise – even when showing grainy sources like the most stylised sequences in *300*.

With that movie, the dark, pushed-contrast images as the Spartans prepare for their climactic battle reveal the Bush to be a reasonable black level performer, retaining acceptable amounts of shadow detail. And when King Leonidas and his six-packed posse appear almost spotlighted against a nearly black backdrop, the darkness appears with less backlight clouding than I expected.

Also credible for such a low-priced TV is its handling of 4K sources, at least where sharpness is concerned. My UHD clips of the *Total Recall* remake and *After Earth* deliver a marked step up in detail and clarity, adding extra depth and appeal to the former's cityscapes and the latter's CGI vistas.

Before anyone gets too carried away by the 58GCL's 4K chops, though, dark scenes are routinely affected by a distracting blue undertone, and the screen's colours generally fail to impress thanks to a lack of subtle toning, and hues that routinely look basic and rather garish.

Bush's budget 4K TV is equipped with pretty drab, thin speakers, too, and proves a bust for gamers because of a high input lag figure of well over 100ms.

The bottom line with the 58GCL is that it's the most chaotic and half-baked 4K TV I've seen. Even if it had appeared in 2014 it would have felt cobbled together; by today's standards it feels practically antiquated ■

## AV INFO

**PRODUCT:** Affordable 58in 4K TV

**POSITION:** High-end by Bush's standards

**PEERS:** Hisense LTDN50K321UWT; Panasonic 50CX680

## HCC VERDICT



### Bush LE-58GCL

→ £800 → [www.argos.co.uk](http://www.argos.co.uk)

**WE SAY:** With its very average picture quality, lack of online features and missing HD tuner, this TV only really pays lip service to its 4K resolution



# DRAGON SLAYERS



**Fresh from Dragons' Den, we talk to Steve Noyes & Duncan Summers about the Worlds' only covered recessed tv point.**

## **Why you decided to go on Dragons Den?**

After a year of trading, Sync-box was growing quickly. We had sold 5,000 units worldwide with large enquiries coming through from major developers. We had designed and prototyped other products to run with the Sync-box product range and realised we required funding to take Sync-box to the next level. Having approached various investment channels, it was proving to be a long and painful process. We considered applying to Dragons Den for investment as we were confident of the product and thought, it can't be anymore long-winded or painful than the other avenues of investment we had tried!

## **Tell us about your experience in the Den**

To our surprise we were called by the BBC and invited to the London Television Studios for a screen test. This was a few months after the initial application, so as you can imagine, it was a shock when the BBC called. The screen test was a brilliant experience! The BBC were just fantastic. The actual day of filming Dragon's Den was amazing. The format has changed this year as we were interviewed before and after we went into the Den. Despite, the hard time we received from the male Dragons, Peter Jones was a true gent. He congratulated us afterwards and had a nice chat with us. It's a day we will never forget!

## **How has the industry responded?**

Since appearing in the Den, the phone and email enquiries have exploded. We have received multiple calls from various distributors, world-wide. We are talking to a large distributor, based in Dubai whom approached us after seeing the show. This is with regard to supplying Sync-box to three brand new Trump Hotels in India and one in Dubai! The AV industry's reaction has also been fantastic. We have received so many kind words and congratulation messages!

## **What does Sync-box hold for the future?**

Initially we are looking to grow the Sync-box product range. This includes a dry wall version (for plaster board walls) and high end metal cover plates for the multimillion £ complexes. It is our intention to grow the business by gaining a large presence in the US as well as EMEA. We also have other product solution ideas which we would like to take to market.



## **What did Dragons' Den Deborah Meaden see?**

*"For me to invest, I have to understand why anyone would want to buy a product or service and at the price it can be produced for. Having been through a major refurbishment recently, I could see exactly why the Sync-box would have been a real asset in terms of saving time and looking good."*

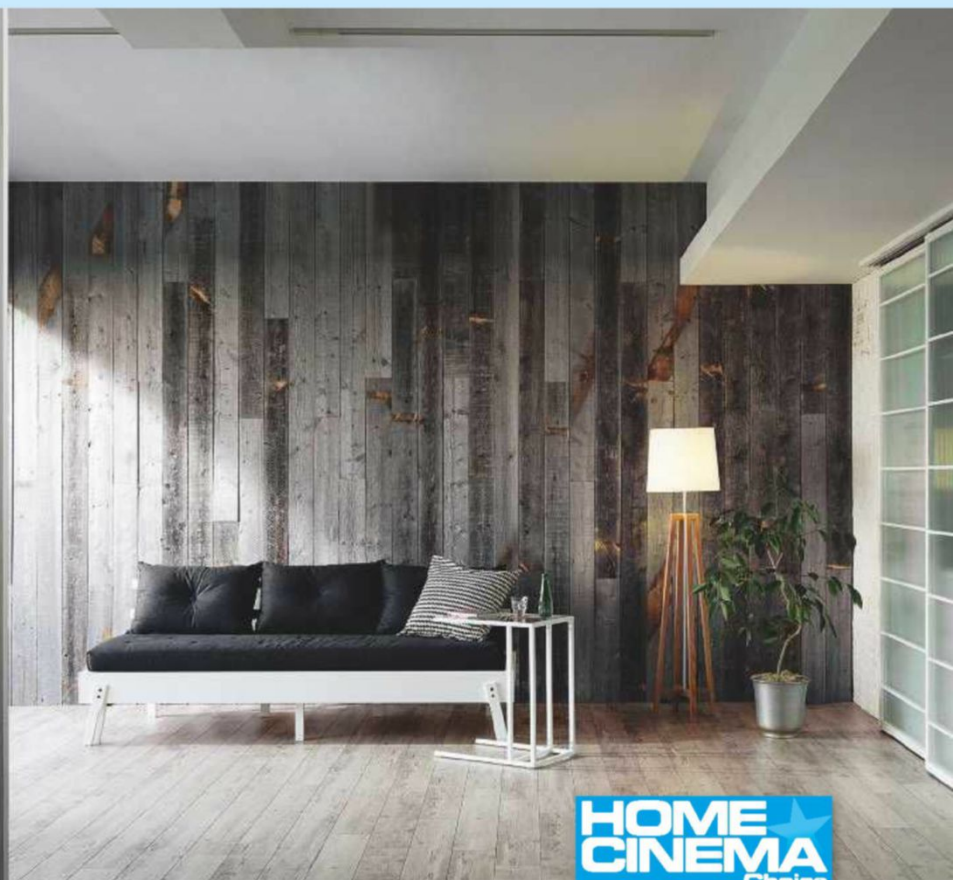
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Yamaha has resurrected its MusicCast brand to include AV separates – **Mark Craven** gets to work on a four-zone installation mixing standalone speakers with an AVR and soundbar



# Multiroom and home cinema collide

Multiroom audio is one of the current success stories of the consumer electronics industry. The proliferation of Wi-Fi networks, mobile devices and music-on-demand platforms means the technology and content is there for anyone to establish a whole-house audio system that a decade ago would have been expensive and complex.

## AV INFO

**PRODUCT:**  
Multi-option  
multiroom audio

**POSITION:**  
ISX-80 (£400) and  
WX-030 (£180)  
are the first two  
MusicCast speakers

**PEERS:**  
HEOS by Denon;  
Sonos;  
Bluesound

There are numerous companies sizing up this market. Sonos is perhaps the most well-known. Others include Samsung, Sony and LG with their mass-market propositions, and Bluesound, with its hi-res ethos. Now Yamaha is entering the fray with an extensive new line of connected gear – albeit with an old name.

Seasoned tech-watchers may remember MusicCast. Yamaha employed the branding back in 2003 when it sold audio playback hardware that offered onboard hard drives and wireless (Wi-Fi) streaming to MusicCast speakers. Now MusicCast is back, retooled for the hi-res audio and smartphone generation. More importantly, it has a philosophy that should appeal to home cinema owners.

An issue for AV enthusiasts wanting to get going with a multiroom audio system is that they don't desire

a multiroom speaker in their movie room. And with good reason – your current 5.1 speaker system (or even soundbar) will do a better job than a standalone squawker. And, even if you find a high-end multiroom speaker with a comparable performance, you're still doubling up on cabinets. What's needed is a multiroom system that can incorporate home cinema kit.

Yamaha, a company with a fanbase that extends deep into AV, understands this. So MusicCast isn't limited to wireless speakers – AV receivers and soundbars join the party, too, and your home cinema setup becomes a high-performance zone in a house-wide system.

A further feather in the MusicCast cap is that the products can be fed via Bluetooth – unlike Sonos, and handy for 'guest' sources – and transmit over the medium



too. This means that non-MusicCast Bluetooth speakers can become part of the array, great news if you've already invested in such kit.

To test the appeal of MusicCast, I set up a four-zone system. Yamaha's RX-V679 AV receiver powered 5.1 speakers, while the YSP-1600 soundbar joined a TV in a second room. Two of the company's wireless speakers – the Restio ISX-80 and the WX-030 – pumped tunes into an office and dining room respectively.

Installation is pretty simple. First, you'll need to download the MusicCast app (free from Google Play or Apple's app store) to your phone or tablet, and make sure your device is connected to your Wi-Fi network. Switch the app on and hit the setup button. Then you're prompted to switch on your MusicCast speaker/AVR/whatever (also connected to the same Wi-Fi network) and hold down the Connect button. On the Restio, soundbar and AVR this is a physical switch (on the receiver it's a secondary function of the Straight button); on the WX-030 it's a touch control on the top panel. Give the app a few seconds and connection is done. As always, if you can plug in hardware to your router via Ethernet rather than Wi-Fi that will be the better option in terms of signal stability.

Setup over, the MusicCast app becomes your source of control. It's a pretty slick offering. Zones can be named from a drop-down selection (mansion owners will be pleased to discover that this includes Pool and Foyer, but perhaps miffed that Orangery and Solarium are absent), or you can label them how you wish. An image can also be chosen, and you can add your own from your smart device gallery. Pairing of zones is done via a simple 'link' icon on the app, which then gives you a master volume control as well as separate levels. As with all multiroom setups, you have the option of listening to different sources in different zones, or combining some or all to suit. It's flexible and fun.

Integrated into the app are Spotify, Juke and Napster. More streaming sources would be useful (Tidal, Amazon Music, etc) and I would expect Yamaha to grow the selection over time. Other options depend on the hardware, and include Net Radio (from vTuner), Bluetooth, Server (for networked sources), AirPlay, Tuner (if the speaker offers FM/AM, like the Restio), Aux (if the device supports it), This Phone (should your smart device be pre-loaded with tunes), HDMI and TV.

## Speaking of speakers

It's likely (though not essential) that any MusicCast multiroom setup will incorporate at least one of its standalone speakers, so the performance of these is due for evaluation. And they're a bit of a mixed bag. (The soundbar is reviewed on p62. We'll be taking an in-depth look at the RX-V679 in our next issue).

The Restio ISX-80 looks a little like it has sauntered off the pages of an '80s design catalogue. Styling is decidedly retro. Its square front fascia showcases a mesh grille encasing an LCD display. The latter is a rarity on a multiroom speaker, and hints at the Restio's 'lifestyle' appeal – the unit offers alarm clock functionality, too.

Use the rear-mounted support leg and the speaker can stand on a shelf or table. Alternatively, the Restio can be quickly wall-hung on a single screw fixing. This undoubtedly looks quite cool – visitors to my house complimented me on my interior design taste – but you'll want to run the power lead in a discreet conduit (there's a channel on the back of the speaker to guide the wire through). The speaker is rated



**1. The £180 WX-030 is the entry point for MusicCast**

**2. Yamaha's Android/iOS app offers customisable artwork**

**3. The Restio ISX-80 offers clock and alarm functionality**

at a modest 30W, using a pair of 1in soft dome tweeters and a couple of 3in woofers. Courtesy of some back-panel bulk, it's full depth is 6.5cm, but it appears slimmer.

Able to be plonked on any flat surface and with its curved, demi-hexagonal chassis, the WX-030 is more typical of the multiroom speaker market. It's just shy of 25cm wide, and again claims a 30W output. Drivers for this mono speaker are limited to a single woofer and tweeter. You can link a pair of these speakers to deliver stereo, although this feature wasn't tested.

First impressions of the £180 WX-030 were that it had an almost muted, muffled presentation. Resorting to a treble tweak lifted high frequencies – EQ adjustments (treble, mid, bass) can be made from within the app, not on the speaker itself – but still didn't unwrap the overall soundfield. Yet after a while this became less apparent

## 'AV receivers and soundbars join the party, so your home cinema setup can become a high-performance zone'

– I suspect the drivers needed running in, for a start – and I began to look upon it more favourably. It is, after all, a sub-£200 speaker with multiroom tricks. I just let it burble away in my office. Matrix and Futurebound's sci-fi-tinged drum 'n' bass track *Skyscraper* sounded fluid and meaty, especially with the WX-030 placed in a room's corner; the guitar melodies in Rod Stewart's *Maggie May*, on the other hand, struggled to really impress above the speaker's low-end-heavy delivery.

The Restio has a different sound signature, with more of a mid-range focus. More drivers, and more than twice the price, it actually came across as a bit less 'together' than the WX-030. But, again, it was up to the task of



day-to-day listening, and I appreciated the separate remote control and preset keys – establish these, and you can use the speaker without needing to have your phone to hand – and the design and clock function.

This is a nature of multiroom audio as a whole, actually – you need to ask yourself what you're hoping to get out of it. Serious audiophiles after quality sonics in multiple rooms would always be best to look at separates. Going from several thousand pounds' worth of electronics to a £180 desktop speaker in another room is bound to disappoint.

That said, perhaps there's a clear space in the MusicCast lineup for a bigger, beefier, better-balanced wireless speaker, something to give the Denon HEOS 7 or the Sonos Play:5 a run for their money.

Testing the Bluetooth transmission feature revealed a few niggles. Setup was complicated by the fact that it wasn't mentioned anywhere in the Restio's manual; I discovered the Bluetooth transmit feature in the speaker's EQ settings on the MusicCast app. I was then able to pair it to a KEF Muo speaker. Frustratingly, there was a noticeable latency issue between the two, which made walking from one room to another a jarring experience. Pausing and then unpausing the source rectified the issue, but it did come back on occasion, presumably caused by a Bluetooth drop-out. I didn't have any latency issues between speakers using MusicCast's Wi-Fi network.

Like nearly all multiroom systems, the app is vital to the overall ownership experience. As mentioned, Yamaha's is well-designed and customisable, yet I encountered some bugs and annoyances. Of the latter is the issue that you can't search for stations using 'net radio – instead, you have to trawl through genre, location, etc and then scroll down a lengthy list. This is a pain if you know the name of the station you want (TalkSport, for instance). 'vTuner are yet to allow to us to perform searches through the MusicCast app interface,' I was told by Yamaha's AV product specialist Chris Wray: 'We're now looking at ways to get around this as it's a highly requested feature.' Furthermore, Yamaha's AirPlay support is limited to a single speaker/device connection; you have to link to other speakers using Bluetooth. And there were a few times when the app hung while in operation, or threw up an 'access error' warning. I expect this with Wi-Fi, to be honest.

And what of AVR integration? This is clever. Not only does your cinema become a multiroom zone, connected

## SPECIFICATIONS – WX-030

**DRIVE UNITS:** 1 x 3.5in woofer; 1 x 1.1in tweeter; 1 x passive bass radiator  
**AMPLIFICATION (CLAIMED):** 30W **CONNECTIONS:** Ethernet; Bluetooth; Wi-Fi  
**DIMENSIONS:** 243(w) x 157(h) x 113(d)mm **WEIGHT:** 2.2kg

**FEATURES:** MusicCast compatible; app control; Bluetooth receive/transmit; available in black or white; wall-mountable (with supplied vibration-damping cushion pads); cable cover; vTuner net radio; DLNA streaming; WAV, FLAC, AIFF and ALAC hi-res playback

## SPECIFICATIONS – RESTIO ISX-80

**DRIVE UNITS:** 2x 3.25in woofers; 2 x 1.1in tweeters **AMPLIFICATION (CLAIMED):** 2 x 15W **CONNECTIONS:** Ethernet; Bluetooth; Wi-Fi; 3.5mm stereo minijack  
**DIMENSIONS:** 302(w) x 302(h) x 65(d)mm **WEIGHT:** 3.3kg

**FEATURES:** MusicCast compatible; app control; Bluetooth receive/transmit; available in black, white or purple; wall-mountable; screw-in stand for table-mounting; vTuner net radio; DLNA streaming; WAV, FLAC, AIFF and ALAC hi-res playback; FM tuner; clock display with alarm, snooze and sleep functions; on-body preset keys; remote control

## PARTNER WITH



**SPOTIFY PREMIUM:** Spotify is the Big Daddy of music streaming services in terms of its extensive library, and the Premium version (£9.99 a month) is ad-free and packs Connect functionality, integrated into MusicCast for slick in-app playback.

sources can be listened to elsewhere. So you can shunt the audio of the Blu-ray you're watching, or your set-top box, to a speaker in the kitchen, meaning you don't miss anything when you nip to the fridge. Multichannel sources are, of course, downmixed to stereo in additional zones.

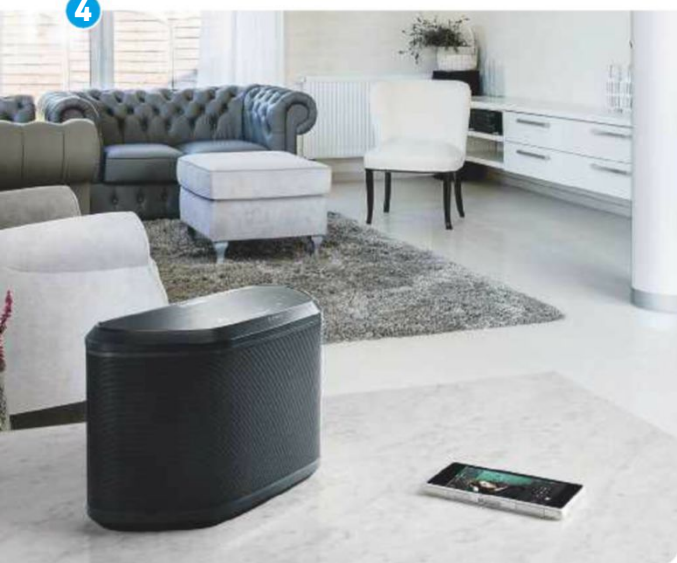
## Extended family

In terms of product variety, MusicCast is highly impressive. In addition to the two wireless speakers used here, system builders can choose from soundbars, a soundbase, 13 AV receivers, the CX-A5100 processor, hi-fi systems and an active stereo speaker pair – the latter, the NX-N500, might actually be the killer speaker I was looking for. I can't think of a multiroom rival that offers as much flexibility.

Whether or not you'll be tempted depends on your circumstances. Anyone coming to multiroom with a blank slate should certainly give it consideration – especially as it features hi-res audio support and Bluetooth transmission – but be aware that rival systems (including Sonos) have more impressive standalone speakers and greater streaming service integration in their apps. More pertinently, I'd suggest any home cinema fan already in possession of a MusicCast-enabled Yamaha AV receiver or soundbar (or planning to buy) take advantage and give some of the other system products an audition. You're already part-way to a flexible multiroom system and maybe didn't even know it ■

**4. All MusicCast hardware can be fed via Bluetooth**

4



## HCC VERDICT



### Yamaha MusicCast

→ From £180 → [www.uk.yamaha.com](http://www.uk.yamaha.com)

**WE SAY:** An impressively flexible multiroom system that embraces home theatre-hedz. Yet the standalone speakers aren't the last word in performance



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# Darbee slots into place

A conventional form factor suits the Darbee DVP-5100CIE, suggests **Steve May**

## THE DVP-5100CIE IS

a system-width version of the original Darblet DVP-5000. While that was an oddball gizmo, this is a more conventional-looking component. It features a single HDMI v1.4 loopthrough, with a USB port for firmware updates and an IR extender system control. It ships with an ugly credit card remote.

By applying some ingenious image tweaks, Darbee image manipulation brings extra visual pizzazz to pictures without overtly emphasizing edge enhancement or noise. In the home cinema environment, the technology is favoured by both Optoma (see p56) and Oppo.

This box isn't just about image processing though. It also incorporates PhaseHD technology, which aims to improve HDMI handshaking for greater stability. If installed

with a PhaseHD receiver, it can also be used to extend HDMI cable runs.

There are three viewing modes: HiDef (green), Gaming (yellow) and Full Pop (red). Yet these descriptors are a bit arbitrary. What we have here are simply three levels of processing. It's all very plug 'n' play.

Used with black and white content, or colour denuded cinematography, the image really jumps. Texture and fine detail are also emphasized. The effect isn't too dissimilar to HDR, actually...

Used with a projector, subtle changes to skin tone become apparent. Processing is adjustable in 5 per cent increments.



Darbee now wants to sit in your AV rack

As a processor, the DVP-5100CIE is somewhat unique. If your display only really enhances contrast by massively crushing blacks, then you might well find it reveals fresh detail – and it looks spectacular with animation. We also much prefer this full-size component to the original clamshell device. There's even optional rack ears supplied. Overall, this is an intriguing, if expensive, system enhancer ■

## HCC VERDICT



**Darbee Visual Presence DVP-5100CIE**  
→ £400 → [www.ideal-av.co.uk](http://www.ideal-av.co.uk)

## MAIDEN AUDIO ED-PH0N3S/£200

# 'Shadows in the staaaars....'

**Mark Craven** throws some horns with this Onkyo/Iron Maiden headphone collaboration

**LET'S FACE IT**, you have to have specific music tastes to be interested in the Maiden Audio ED-PH0N3S. These Onkyo on-ear cans are the result of a teamup with legendary UK heavy metal troupe Iron Maiden, and sport the fearsome face of band mascot Eddie on one of the cups. Yet the celebrity endorsement here is more than skin deep, we're told; Iron Maiden bassist/driving force Steve Harris has been involved in the project, including tuning, and he used a pair to master the group's latest album. They're marketed as headphones for headbangers. If Celine Dion is more your bag, you won't give them a second glance.

That would be a shame, though, as the ED-PH0N3S sound pretty good. Harris says he targeted mid-range power in particular (for those all-important guitars) and that's in evidence. The fast riffs of *Speed of Light* from Iron Maiden's *Book of Souls* aren't lost

underneath the galloping bass and drum section. Yet neither is the latter underendowed; Nicko McBrain's kickdrum packs a punch. In fact, it's the



lower/mids where the ED-PH0N3S fare best; higher-frequencies can sound unpolished.

Like all good headphones, these have the ability to cocoon you in music, with canny stereo imaging, rhythmic delivery and the fineries of whatever you're listening to being revealed. The non-swappable 1.6m cable doesn't lend itself well to movie-watching, though. That said, they accompanied a laptop screening of *Transformers: Age of Extinction* with dollops of low-end heft. They're a snug fit, perhaps a little too tight for marathon sessions – my lugholes were hotting up nicely by the time Galvatron made his escape.

I rate these as a good, fun buy. But I don't mind being a walking advertisement for the East London rockers. Your views may differ ■

## HCC VERDICT



**Maiden Audio ED-PH0N3S**  
→ £200 → [www.maidenaudio.com](http://www.maidenaudio.com)

Have metal, will travel...





<sup>†</sup> Screen image shown is simulated

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# Straight sonics

**Danny Phillips** likes the fuss-free design of this mid-priced Samsung bar/sub system, but wonders if it does enough to challenge the competition



**SUCH IS SAMSUNG'S** devotion to curved TVs that it's even started bending its Blu-ray decks and speaker systems to stop them looking out of place. But if you're not down with the whole curved thing then don't worry – the Korean corp hasn't forgotten you.

The straight HW-J650 is a striking, elegant soundbar styled in moody black or snazzy silver (the latter is called HW-J651). The chrome end caps, smoothed corners and finely perforated aluminium grille ooze class, while the enclosure has the heft and rigidity of a premium product.

It's also surprisingly discreet. At 51mm high the 'bar lies nice and flat on a TV stand without bothering the set's remote sensor. You can wall-mount it using supplied hardware.

There's a slim remote in the box with tidy, tactile buttons, but for up-close operation you'll find a row of touch-sensitive controls on top.

An HDMI input lurks on the back (and it's v1.4), but, as with Yamaha's YSP-1600 (p62), one or two more would have been welcome for the money. It's joined by an ARC output that takes sound from a TV, an optical digital input, 3.5mm minijack and an Ethernet port

– but most people will make do with the built-in Wi-Fi. A USB port lets you play MP3, WMA, OGG and AAC, plus hi-res FLAC, ALAC, AIFF and WAV files up to 192kHz.

A minimally-styled wireless subwoofer with a 7.5in driver provides the bass grunt of the system. Oddly, the widest side

faces forward, which might be a problem if you want to squeeze it down the side of the sofa.

With the sub in tow, this is deemed a 4.1-channel system (rated at 320W) with Dolby Digital 5.1 and DTS two-channel decoding; a virtual surround mode expands the soundstage. Six presets cater for different types of content, but I soon preferred to stick with the Standard setting.

The HW-J650 also forms part of Samsung's multiroom family, alongside speakers such as the R7 and R5. In fact, you can use two of these speakers with the 'bar as surround channels to create a 5.1 system. It's all orchestrated by Samsung's Multiroom smartphone app, which brings Spotify, Deezer, 7digital, 8tracks, JUKE, Murfie, Napster, Qobuz, Rdio and TuneIn to the table.

The app boasts a gorgeous design and intuitive layout, but it's hesitant when scrolling quickly through large music libraries.

Rounding up the feature list is Bluetooth and TV SoundConnect support, the latter allowing compatible TVs to beam sound to the HW-J650 cable-free.

## Maxing out

Play a movie and the Samsung delivers a clear, powerful sound that excites and entertains, but if you want absolute composure or finesse then this isn't the soundbar you're looking for.

Demo disc of the day *Mad Max: Fury Road* (Blu-ray) shows off the best and worst of the HW-J650. On the positive side, the tone is crisp and biting, blasting out rattling car engines and swirling sandstorms with gusto. This pays dividends when listening at low volumes – the bar's naturally dynamic tone allows you to keep track of effects and dialogue.

## SPECIFICATIONS

**DRIVE UNITS:** 4 x mid/high drivers

**AMPLIFICATION (CLAIMED):** 320W

**CONNECTIONS:** 1 x HDMI input; 1 x HDMI output (ARC compatible); 1 x optical digital audio input; 1 x 3.5mm analogue input; 1 x Ethernet; 1 x USB port

**DOLBY TRUE HD/DTS-HD MA:** No/No

**SEPARATE SUB:** Yes, wireless. 7in driver

**REMOTE CONTROL:** Yes **DIMENSIONS:** 1060(w) x 51(h) x 71.5(d)mm **WEIGHT:** 2.4kg

**FEATURES:** Wi-Fi built in; Bluetooth; TV SoundConnect; multiroom compatible; virtual surround; Standard, Music, Voice, Sports, Cinema, Night presets; DD/DTS 2.0 decoding; FLAC, ALAC, AIFF and WAV hi-res audio playback

There's also a lovely spread of sound as the cars tear through wide desert shots. The use of four drivers is the key here, throwing effects far and wide even without the assistance of the hit-and-miss virtual surround mode.

The common soundbar caveat still applies – it's not real surround sound – but you always have the option of adding wireless surround speakers.

Other positives include clear detail and full-bodied, focused dialogue, despite the lack of a dedicated centre channel, as you'll find on Samsung's curved HW-J8500.

However, *Mad Max's* explosions and rumbling trucks sound boomy, with a lack of integration between the soundbar and sub. There's lots of bass here, but it just lacks the cohesion and tightness to really drive it home.

Nor does the HW-J650 like loud volumes. I found it loses composure and organisation as it creeps over half way, making collisions sound a bit painful rather than fun.

With music and TV material the Samsung offers a punchy and palatable sound. The extra bass depth and midrange attack makes dramas like *The Night Manager* on BBC One sound as thrilling as the writers will have hoped, while talky shows like *Room 101* or *BBC News* remain audible over the hubbub of a family room.

All in all, the HW-J650 is a decent enough soundbar, offering an alluring range of features and a stylish design, but if you're expecting refined sonics you might want to check out the likes of Q Acoustics' M4. And there are rivals that trump it in the connectivity stakes, too ■

## AV INFO

### PRODUCT:

Soundbar/sub duo with hi-res audio playback

### POSITION:

Below curved and valve amp models in Samsung's range

### PEERS:

Yamaha YSP-1600; Q Acoustics M4

## HCC VERDICT



### Samsung HW-J650

→ £400 → [www.samsung.co.uk](http://www.samsung.co.uk)

**WE SAY:** There's no curve in sight, but this bar still looks neat. Its crisp, attacking sound will win it fans, but we'd like more subtlety and more HDMI's



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# Digital Copy

A Wi-Fi hiccup sends **Mark Craven** into a cable-tidying frenzy, but he's still not convinced that metres of wiring is the way he wants his home cinema to go. Maybe it's time to get serious

**I'M A BIG** believer in giving your AV setup a Spring clean. Untangling cables, repositioning speakers that have been shunted about and putting Blu-ray discs back in their correct cases can help bring a sense of calm to a fraught AV mind.

I'm also a big believer that the best time to do this may not necessarily be Spring. Rather, it's when you have motivation and spare time. These are two things often in short supply, so when you have them, don't dawdle, even if it means getting busy with your gear before the clocks have gone back.

My recent Spring clean was a bit of an accident, actually. It started because I decided to connect my Sky PVR and my BT Hub via Ethernet, and then mushroomed from there. They had been working fine via Wi-Fi for over two years, the two boxes happily talking to each other, but recently had started falling out. And having to re-enter your Wi-Fi password every time you want to access BBC iPlayer is not cool.

Now, while establishing the Ethernet hookup I decided to re-site the Hub. And while doing that I decided to re-run my ADSL cable. And remove the Wi-Fi dongle from the back of the Sky box. And untie my mass of mains cables. Basically, before you knew it I was knee-deep in AV, re-naming HDMI inputs, tying up metres of spare wiring, clearing my Sky planner of unwatched recordings and even giving my Blu-ray deck a dusting. It took a few hours, but I immediately felt happier.

## Going right down to the wire

The happiness lasted only a few minutes, though. Soon I was looking at the back of my AV receiver and wondering what the hell was going on. Namely, in this day and age, why is it necessary to have so many physical connections to all my other kit? You

can now buy a car that parks by itself, but you can't get a Freesat box that can wirelessly stream to a TV less than 60cm away. That's 21st century madness.

Everywhere else I look, I'm confronted by a wireless world. I've been auditioning Yamaha's MusicCast ecosystem (see p66), where speakers receive and transmit and play multiroom footsie with nothing more than a power lead in sight. Yet **look at the rear panel of an AVR and you'll struggle to see the power lead amidst the HDMI and speaker wire spaghetti.** (And, with today's 7.1 and above setups, you now need fingers thinner than a stick insect's to connect all your cables).

My colleague Barry Fox wrote last year in *HCC* about Keyssa, a new connectivity standard that promises to cut the cord by offering NFC-style tap-and-zap tech that can accommodate HD quantities of data. It's all very intriguing, but still seems a way off.

And, of course, there are wireless HD senders already available to buy. To be honest, I've generally given these a swerve – it's the less-than-rigorous nature of a wireless connection that started my current AV overhaul in the first place – but perhaps I should reconsider.

I'd love to hear from those of you have gone down this route, because the alternative worries me and makes rearranging mains leads look like a walk in the park. It involves drills, and ceiling voids, and chasing cables in walls. And then worrying that the cables you've installed will fall apart after only a few months. It's certainly not a job that be completed during a wet February afternoon. Maybe I'll start with that Ethernet cable and see how I get on... ■

*Is your home cinema embracing the wireless world?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

**Mark Craven** can count his DIY skills on the fingers of one hand. And it's a hand with only three fingers after a DIY-themed hacksaw incident





# Film Fanatic

**Anton van Beek** wonders why the upcoming DC and Marvel movies have got cinemagoers and even movie professionals behaving like teenage fanboys

**THERE'S SOMETHING IN** the air in the world of superhero movies right now. After several years of beating up bad guys, we're now about to get two comic book blockbusters in quick succession based around the idea of superheroes punching seven shades of hell out of one another instead.

First up, at the end of March is DC's *Batman v Superman: Dawn of Justice*. Not only will this epic caper let fans watch the Caped Crusader and the Man of Steel going at it hammer and tongs, it will also lay the groundwork for the brand's shared cinematic universe, introducing us to the likes of Wonder Woman and Aquaman.

Just as the dust starts to settle from that brawl, the tail-end of April brings us Marvel's *Captain America: Civil War*, in which government efforts to legislate superheroes lead to clashing ideologies best expressed by Cap repeatedly smashing his shield into Tony Stark's smug face.

As you'd expect, the trailers for both films are dark and angst-ridden affairs, full of barely contained vitriol from characters cinema audiences are more used to seeing as friends than enemies. And, weirdly, the same sort of thing can also be said about the majority of the people discussing these films online. As I've discovered, it's impossible to read the comments on any 'net story about either flick without finding yourself amidst people arguing the merits of DC over Marvel and *vice versa*.

## Fighting talk

If it were only adolescent fanboys making all the noise, it might be easier to look beyond it. But the craziness has also started to infect the people involved with the DC and Marvel features themselves. *Aquaman* actor Jason Momoa arguably fired the first (cheap) shot last March when he

signed a poster of himself in costume with the legend 'F\*\*\* Marvel'. That's really mature.

More recently, *Batman v Superman: Dawn of Justice* director Zack Snyder got in his own dig at Marvel while replying to a comment made by Steven Spielberg that the superhero genre will one day go the same way as the Western. Snyder thought that it wasn't really a problem for Batman and Superman; they 'are transcendent of superhero movies in a way'. Not content to leave it at that, he put the boot into Marvel's rosters of screen stars. **'They're not just, like, flavour-of-the-week Ant-Man. Not to be mean, but whatever it is. What is next? Blank-Man?'**

Before long, Marvel was firing back. The Winter Soldier himself, Sebastian Stan, went after Snyder with both barrels, reminding him that he's only filling the shoes vacated by the director of the Dark Knight trilogy: 'I would say we're still making something very original in our own way... not trying to mimic a better Christopher Nolan movie or something like that.' Then actress Jaimie Alexander (of *Thor* and *Agents of S.H.I.E.L.D.*) made it clear the reason she preferred working for Marvel to DC is that 'they start with a character first. All the explosions, the glitz and glam, are secondary to who the actual character is deep down. That's something I haven't really been able to find with DC Comics. I know that's a bold statement, but it's been my experience.'

Am I alone in thinking this is all completely crazy? Why do we have to side with one studio over the other? As far as my home cinema is concerned, the more action-packed blockbusters, the better. So come on guys, let's try giving peace a chance and leaving the fighting on the bigscreen ■

*Where do you stand on the war between DC and Marvel movies? Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

Having got all of that off his chest **Anton van Beek** can now get back to posting on forums about how *Star Wars* is better than *Star Trek*...







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# In The Mix

**Jon Thompson** believes that Ultra HD Blu-ray (and what comes next) is in danger of being held back by a film industry that's dropped the ball when it comes to its digital workflow

**UHD BLU-RAY HAS** now been released in the US. Indeed, it seemed to escape early into some stores: 20th Century Fox's first round of titles, including *The Martian*, *Kingsman: The Secret Service*, *Exodus: Gods and Kings* and *Maze Runner: The Scorch Trials*, was meant to be available from February 14, but titles hit the shelves earlier to support the Samsung UBD-K8500 players that were there to buy. Maybe this timely arrival was to cover the fact that the *International Business Times* had posted a piece suggesting that 3D television is 'officially dead'...

The launch of a new format is interesting: we've all invested heavily in Blu-ray collections, so will we be upgrading our favourite films again?

High Dynamic Range is its major selling point. The primary standard offers 10-bit HDR, 4:2:0 chroma subsampling with P3 (the theatrical colour space) and BT.2020 (also called REC.2020) capabilities. Blu-ray is 8-bit 4:2:0 and limited to the REC.709 colour space. The basic spec gives us a dynamic range that's very close to the original digital master.

Yet to me this is not High Dynamic Range, it's about the same as you would get from a well set-up P3 Digital Cinema projector. **When we move up to Dolby Vision, then we're talking...**

Another issue I have is that no feature film content exists in true High Dynamic Range. Some films have engaged in an HDR pipeline, though. Two of note are *Rogue One: A Star Wars Story* and *Captain America: Civil War*. Both have been shooting in part on the IMAX Alexa camera, which shoots at 6K to produce an optimised 4K image. And *Star Wars: Episode VIII* has been shooting for a couple of weeks, and it's reported to be going for a genuine HDR workflow.

But it's going to be some time before the UHD Blu-rays of these will be available. So until then what do we have? Almost all the feature film digital

masters in existence are in a limited format.

The industry took the cheapest option for the last ten years, which has left it with an issue. Consumer tech is now ahead of the hallowed theatrical high ground that we all grew up with. This was bound to happen and in fact, when 8K displays become commonplace, there will be truly nothing to show from Hollywood on these screens. Except *Lawrence of Arabia*. A 50-year-old film has a better digital master than any current movie! (Resolution enhancement technology might be the saviour – computer power is now viable to make this feasible at the mastering stage. More on that another time).

## UHD Blu-ray: the early days

So what is looking good on UHD Blu-ray? I've seen Lionsgate's forthcoming *Sicario* (pictured) and it looks stunning even though it wasn't shot at 4K (it was shot at 3.4K but was upscaled and mastered at 4K). Despite that, it does have a real edge on the also good-looking BD. *Mad Max: Fury Road*, on the other hand, appears not a great deal better than the Blu-ray as it's upscaled from a 2K master. And while *The Maze Runner's* UHD BD is derived from a 4K master, the sequel (*The Scorch Trials*) was only mastered to 2K. D'oh!

Another word of warning. Even if a film has a 4K master, it's likely that all the effects work is rendered at 2K and has to be cleverly woven up to 4K. The industry doesn't want to pay for the additional rendering time and hopes it will get away without anyone noticing.

In the long run I think this pipeline is going to have to change. Enthusiasts are going to be looking with scrutiny at those extra pixels, after all... ■

*Are you concerned that '4K' might not always mean 4K?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at [@johnnyfocal](https://twitter.com/johnnyfocal)





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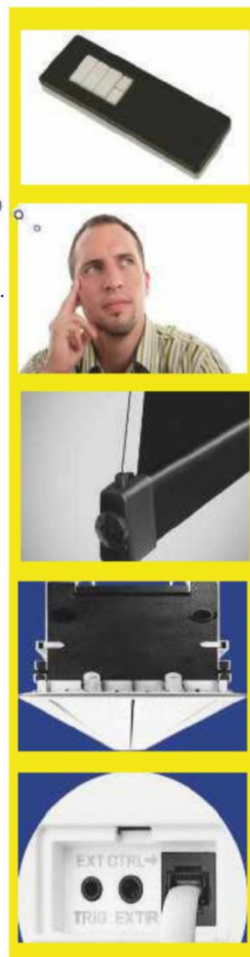
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# *How to...* Upgrade a PS4 hard drive

There's no doubt that the PlayStation 4 is a terrific games console – but the regular model comes with a weedy 500GB hard drive (to keep costs low). And as sure as *CoD* has sequels, you'll outgrow it in no time. You can, of course, buy the larger 1TB special edition PS4 but this too will fill up with speed. **Steve May's** advice is to buy a basic PS4 and then upgrade to a cavernous 2TB hard drive.





**ALL YOU NEED** for this little *How To...* project is a replacement 2.5in HDD, a Philips screwdriver, external hard drive to back up to, and a USB stick to load system software. The process is straightforward, provided you follow our tutorial.

The best time to replace a PS4 hard drive is immediately after you buy the console. This removes the need to back up any content or game saves and simplifies the whole process. Make no mistake, you will need to upgrade at some point anyway, because the 500GB drive supplied is simply not big enough for even a modest games library, particularly if you want to take advantage of those free monthly games offered to PlayStation Plus subscribers. There are few things more irritating than having to delete titles from the console just to play something new. Jumping from 500GB to 2TB gives you plenty more room for manoeuvre.

However, if you need to upgrade precisely because you have maxed out the drive, then you'll want to safeguard what you have. The simplest option, and the one I favour, is to back up the entire PS4 drive. The upside to doing this is that when you finish, you'll end up with a PS4 identical to that which you started with, only with more disc space, all with the minimum of effort.

Backing up is a slow process though, so you might want to let it copy overnight. Obviously, you'll need a back-up USB drive big enough to back up onto. Connect your external back-up HDD, then go to System > Back Up and Restore.

Alternatively, you can opt to just copy saved data stored on the PS4 to a USB device, or upload to the Sony Cloud (PlayStation Plus subscribers only), and then reinstall each game manually afterwards (a bit of a faff). And if you simply want to take your PS4 back to a factory-fresh state, don't bother backing up at all.

Before you begin the drive replacement, unplug power and all AV cables. Removing the HDD bay cover of the PS4 is relatively easy. Just apply moderate pressure on the top glossy cover where it clips to the matt chassis and pull away from the main body. The faceplate literally slides out. Once off, you'll see the console's metallic frame and hard drive cage. Park the faceplate somewhere safe, so you don't accidentally tread on it.

## The taming of the screws

The hard drive caddy, identifiable beneath all the perforations, is located to the front of the PS4. You'll see a moulded mini-handle of sorts. The only screw that you need to remove to release the caddy is the large one with distinctive PlayStation control graphics imprinted. Unscrew this and then gently pull the caddy out.

The PS4 2.5in drive is then held in place by four dedicated screws. Once these are removed the loose drive can be removed. You can repurpose this drive as you feel fit. I actually used my PS4 drive to upgrade the 40GB HDD in a PlayStation 3 (seemed fitting). I then bought a cheap external drive case for the 40GB PS3 drive, in order to use it for general storage. Obviously, don't do anything with your PS4 drive until everything is working okay in the console.

Not all 2.5in drives are the same size. I used a Samsung M9T 2TB HDD, which at 9.5mm tall fits perfectly. This drive is typically available for around £80 online. Fit it into the empty caddy and return the anchoring screws.

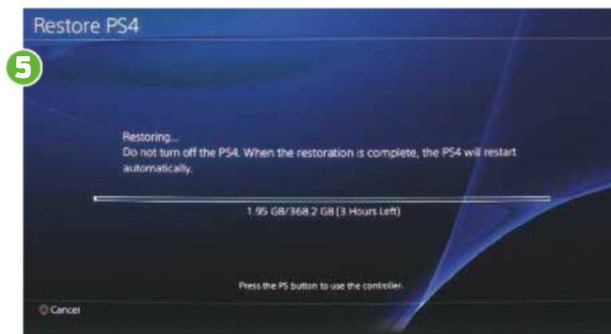
Now download the latest version of the PS4 System Software to a USB thumb drive (you'll need at least

900MB free space) from the PlayStation website ([www.playstation.com](http://www.playstation.com)). Look for New Installation of the System Software. Save the file to a folder on the stick called UPDATE and name the downloaded file PS4UPDATE.PUP.

With the new drive secured, insert the USB stick and power up the PS4, holding the power button down for seven seconds. Your gamepad needs to be connected via USB at this point to select options, as wireless control will not work. Select Initialize PS4 (Reinstall System Software). The PS4 will now prep the drive and prompt you to – that's right – reinstall the system software.

Once the process has completed, and the PS4 rebooted, take a look at the System Storage management menu. You'll see you now have 1.76TB (or thereabouts) of free space, plenty of room for games and media content.

Connect that backed-up external hard drive and navigate to System > Restore. Follow the instructions onscreen to restore all your content. This could take some time (have a cuppa, you deserve it), but once completed your PS4 will be exactly as you left it, only much, much roomier ■



## TOP TIP

**SAFE AND SOUND:** Worried about your PS4's warranty? Don't be – the PS4 HDD is designed to be user-upgradeable and you don't have to break any warranty seals to do the mod

**1. Sony's PlayStation 4 comes with a 500GB HDD as standard**

**2. The HDD caddy sits on the right-hand side of the PS4**

**3. A screw marked with the traditional PS graphics keeps the caddy in place – remove this and you can slide it out**

**4. Remove four screws to free the drive from its caddy**

**5. With new drive fitted, it's time to restore your backed up data – be prepared for a long wait...**

## DO IT!

**COST:** 2TB HDD, between £60 and £100

**TIME:** While swapping the drives and installing system software can be done in around 20 minutes, backing up and restoring your original drive's content is a lengthy (10hrs+) task...

# Feedback

Got an axe to grind? Need to comment on current technology? Want to share your knowledge with our readers? **Team HCC** is here to help

## I need a future-proofed AVR

Hi. I am thinking of upgrading my receiver to a new Dolby Atmos and DTS:X model, and futureproofed for HDR passthrough.

However, I currently have a 7.1 speaker setup and wish to keep this and add two upfiring speakers. Is there a receiver you could recommend? I have a budget of £800.

Also there seems to be little choice of upfiring speakers – the basic Onkyo or more expensive KEF models. Are there any more coming onto the market? There seems to be more choice in the USA. I have a budget of £300 for the speakers.

*Richard, via email*

**Mark Craven replies:** First, the AVR. We're now entering the phase where AVRs with Atmos, DTS:X support and HDR passthrough (HDMI 2.0a) should become commonplace. However, currently the market is a bit thin – especially around that £800 price point. The 2016 ranges from the usual suspects (Denon, Onkyo, Yamaha, Pioneer etc) should widen the field, but these haven't landed yet.

At this very moment, the 2015 Onkyo models would seem to be the way to go – the Japanese audio behemoth launched a gang of



receivers with the futureproofing you're looking for. Yet with your proposed setup in mind, you need a nine-channel model – and the DTS:X-ready range from last year tops out at 7.2 (the TX-RZ900). And only the 'base' model (the TX-NR646) is within your target price (at £400).

So, a nine-channel AV receiver with Atmos, DTS:X and HDR support for £800? I'm afraid that you're going to have to wait and see. This is a spec that will currently set you back around double your budget – look at the Denon AVR-X6200W reviewed on p38.

On to the upfiring speakers. This is something that your fellow reader Simon

**Onkyo's format friendly, but 7.2-channel, TX-NR646**

asked about in our last issue, but to quickly recap: Onkyo's SKH-410s and KEF's R50s are the obvious options for UK buyers as they are widely sold. AV distributor Connected Distribution is bringing Atmos modules (amongst other speakers) from US brand Atlantic Technology to these shores, and I know Kalibrate Ltd ([www.chromapure.co.uk](http://www.chromapure.co.uk)) will be stocking them soon. There are, as you say, more options Stateside, including Definitive Technology. It would seem that UK brands are facing a struggle getting retailers to place them...

## Bypassing cinema not bad

I enjoyed the interview piece with the FrightFest film festival people in the last issue (HCC #257), especially the comment that 'straight-to-DVD' doesn't always equal 'crap'.

Netflix and Amazon are both now producing movies that are available to stream without being shown in cinemas and considering the way that our cinemas are becoming filled with big-budget superhero movies this trend will probably continue!

*Alan W, via email*

**Mark Craven replies:** You speak the truth! There are countless flicks being made and not all can/will be shown at the multiplex – some, obviously, because they're awful, but others due to distribution issues or the new business models you mention. I think it's time we all fought our fears of straight-to-video.



**The Unfolding:** one of the VOD titles released under the FrightFest Presents label



Your £300 budget precludes getting the KEFs, so I'd suggest maybe starting with the affordable Onkyos and seeing how you get on. Or try and up your budget a bit!

### Poor-quality cinemas bug me

Theoretically, Ultra HD Blu-ray with a new 4K TV or projector will match modern commercial cinema quality. Okay, great. But I wish cinema quality would match the quality of my current projector or plasma at least, both only Full HD.

Recently I've watched *Goosebumps* with my son in the local Odeon multiplex. It was horrible – picture was flat, with very poor black levels, contrast and colour. It's like DVD on a massive screen. I thought: 'Is that 4K?'. It didn't match even proper 2K. It was the same story a few years ago when I watched *12 Years a Slave* in the same multiplex. Nothing has changed. And it's not just them. *Hunger Games: Mockingjay Part 2* on an 'Extreme' screen at the Vue wasn't much better either.

Why should I even consider going to the cinema again when I can buy a brand-new copy of the same film on Blu-ray in a few months for half the price of what I spend on tickets?

Dolby Cinema with Dolby Vision and Atmos would be great but I have little faith that it's gonna happen any time soon, as their goal is not to provide the best experience but just to squeeze profits.

Also, a very interesting article about 'Cinemike' tuning [*HCC #256*] – but to be honest I'm a bit sceptical. I believe there are things that can improve performance of your AV system (professional video calibration, loudspeaker cables) but the vital thing is the source. Rubbish comes in, and rubbish comes out. You can't improve the quality of a poor Blu-ray disc, no matter how great your AV kit is. And DCI source identical with Blu-ray? DCI has a greater colour space and bitrate. Please correct me if I'm wrong.

Romualds Pizans, via email

**Jon Thompson replies:** Interesting points, Romualds. Regarding the DCI v Blu-ray comparison, let me turn back to *John Wick* and get a bit technical...

This film was lensed on a Super 35-sized CMOS sensor that shoots up to 2,880 x 2,160 resolution and supports uncompressed video or proprietary raw (ARRIRAW) data in a wide gamut colour space. The film was mastered in P3 colour, the native colour space of a DCI projector. Now P3 is bigger than the REC.709 used for Blu-ray, but the information recorded and graded also fitted nicely into REC.709 with only a few instances where colours are more vivid, for want of a better word. Even though the film was only shot at 2.8K, it was scaled up to 4K and mastered at 4K. This master was then used to make

## ★ Star Letter...

### DTS:X has no content!

We've been told for the best part of a year that DTS:X is the next big thing in immersive audio, following the successful (albeit slow-burn) introduction of Dolby Atmos in 2014.

Indeed, all the major AV receiver manufacturers have been very quick to update their product lines and to heavily promote DTS:X readiness. Denon has released DTS:X firmware, yet in the UK and Europe there is zero DTS:X content available (and seemingly none currently scheduled) despite the protracted launch.

US Blu-ray editions of *Ex Machina* and *American Ultra* contain the DTS:X soundtracks (both are zone 'A' locked), but our editions do not. So far, DTS has failed to respond to my requests for clarity on their UK/European DTS:X content strategy.

*Pixels* was released on US Blu-ray with a Dolby Atmos soundtrack, but carries Auro-3D on the UK edition and the UK release of *Step Up All In* omitted the Dolby Atmos soundtrack available on the zone 'A' locked US release.

Why is there such disparity and market confusion – surely this is very damaging to the industry?

It's especially annoying when consumers are pre-ordering Blu-ray titles after reading the published specification, only to find the UK/European editions omit key features (without any advanced warning).

Dolby and others actively publicise US releases featuring their immersive audio formats, but seemingly have no interest in doing so in other markets. Without collaboration with content providers in European markets, immersive audio will not gain traction outside the US.

Having visited the US recently, it was very noticeable that far more US Blu-ray

releases are now zone 'A' locked – I thought this terrible practice was going away, but it's more evident now than ever before. Zone locking serves no purpose other than to anger legitimate consumers who buy Blu-ray discs. It should not be necessary to buy an expensive zone-free Blu-ray player and risk invalidating the warranty.

James Willmott, via email

**Anton van Beek replies:** 'Damaging to the industry'? Certainly the enthusiast market that we're all a part of isn't being helped. Of course, since you wrote, the Blu-ray of *Crimson Peak* has arrived with a DTS:X mix, and the US UHD BD of *The Last Witch Hunter* has been announced as having a DTS:X track. But overall, I agree with you – the rollout is a mess. And a frustrating one.

I wrote two years ago that I wasn't expecting much of a push with Dolby Atmos in the UK. Thankfully, I have slowly been proved wrong. I'm not sure the same will happen with DTS:X – it seems that some titles that featured that tech theatrically will instead sport Atmos when they are launched on home media. And I definitely don't expect Auro-3D to take off.

Star letter-writer James grabs *Supernatural: The Complete Tenth Season* on Blu-ray courtesy of Warner Bros. Home Entertainment. Available to own on Blu-ray and DVD from March 21, *Supernatural: The Complete Tenth Season* features all 23 episodes alongside four hours of bonus content including behind-the-scenes featurettes, commentaries on selected episodes, a Comic-Con panel, deleted scenes and a gag reel. *Supernatural: The Complete Tenth Season* is available now on Digital HD.



an XYZ colour space DCI 2K cinema release master, and a REC.709 HD master, which was then MPEG-4 AVC encoded with an average bit rate of 33.23Mbps. (That's the Zone A US Blu-ray, which is similar to the European versions – the UK version was VCI encoded). The DCI file at 2K is frame-based encoded. It's 160GB, which works out at 211Mbps. Yet because it's frame-based it actually means it has a lower bitrate than the Blu-ray (if it was temporally compressed like BD it would work out at 26Mbps). And, yes, the DCP is a true 12-bits, but even though the Blu-ray is 8 bits 4:2:0, the way it is encoded gives you 11 bits perceptual. So they are actually well matched.

Doing a like for like comparison is not that hard therefore, especially on a Blu-ray player such as the Cinemike which has a very clean output stage. It's a given the system would be calibrated to mastering standard with zero Delta (0.0) errors, which is impossible on almost all consumer equipment.

You are right, though, in that a good source is vital. Many DCPs are heavily compressed, as your experience with *Goosebumps* highlights. That film is a 2K 3D DCP, which is 103 minutes and only 134GBs in size. Each eye would only be 67GB. That is 86Gbps per eye, frame based – if it was temporally compressed it would be about 10Mbps – or about the same as a DVD...

## Pricing on DLP 4K?

Great to read that Texas Instruments has designed a new 4K DLP chip for home cinema projectors [HCC #257]. But I immediately have a question!

I've seen it described as 'affordable' yet in your CES show coverage you said 'TI hinted that first models would be comparable with Sony's SXR range.' Those are £5,000+ projectors! Hardly affordable!

So, do you think that 4K DLP models will soon drop down to the kind of price tags (below £3,000 or even further) that many of us are limited to?

Johnny, via email

**Steve May replies:** Until the first models arrive (probably in the Autumn of this year) we can only guess at prices, and have to take TI's comments on board. What does seem likely, however, is that brands working with DLP chipsets will jump at the chance to flesh out their product lines with UHD models. Some of these (think Runco and SIM2) will no doubt look to maintain their high-end ethos with custom-install focused high-brightness models that will cost a fair whack. Others (think Optoma and BenQ) would probably have more joy sticking to their mass-market pricing structure. I'm sure it's only a matter of time before 4K DLP

projectors reach down to semi-affordable levels. After all, Full HD PJs – once expensive – are now easily found for as little as £500. But don't expect bargains in the first generation.

## Missing IMAX info?

Online I found an article on your website entitled *The Sound of IMAX*. There were several spots where the interviewee's quotes trailed off with a '...'. I'm wondering if there is a more complete version of this article with the full text of the interview?

T, via email

**Mark Craven:** Unfortunately not. As you say, the '...' are there to illustrate when IMAX's Chief Technology Officer, Brian Bonnick, tailed off at the end of a sentence or took a long pause. Nothing else!

## What's that TV cabinet?

I've really taken a fancy to the TV unit on page 20 of HCC #250.

The unit is featured in a picture of the Toshiba ZL2. Looking for info on where I can



Wanted: the name of this TV stand...

buy this unit and which company supplies it.

Tim Evans, via email

**Mark Craven replies:** The image of the Toshiba ZL2 is a shot from Toshiba's own press library, so we have no way of knowing what the rather natty TV unit is – it may even be a Japanese brand!

So, sorry about that. Maybe other HCC readers will know where it comes from... ■

## Contact us...

Write to HCC, AV Tech Media Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent, TN8 6HF, or email us at [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com). Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

# WIN! Great Blu-rays up for grabs...

Just email your answer to [Competitions@homecinemachoice.com](mailto:Competitions@homecinemachoice.com) to be in with a chance to win



## Bridge of Spies

Steven Spielberg's tense Cold War thriller makes its debut on Digital HD on March 20, followed by Blu-ray and DVD on March 28. To celebrate the release we've joined

forces with Twentieth Century Fox Home Entertainment and have five Blu-rays up for grabs.

## Question:

Who recently won the Best Supporting Actor Oscar for his role in *Bridge of Spies*?

## Answer:

A) Mark Rylance B) Tom Hanks  
C) Alan Alda

Email your answer with '*Bridge of Spies*' as the subject heading – and don't forget to include your postal address!



## Carol

Based on a novel by crime writer Patricia Highsmith, *Carol* follows two women caught in an unexpected love affair in 1950s New York. One of 2015's most celebrated films, *Carol*

arrives on Blu-ray and DVD on March 21 courtesy of UK distributor StudioCanal – and we've got five Blu-rays to be won!

## Question:

Which of the following films was *not* based on a novel by Patricia Highsmith?

## Answer:

A) Strangers on a Train B) Gone Girl  
C) The Talented Mr. Ripley

Email your answer with '*Carol*' as the subject heading – and don't forget to include your postal address!



## The Hunger Games: Mockingjay – Part 2

The final part of the hit *Hunger Games* series explodes onto DVD, Blu-ray, 3D BD, BD Steelbook and Digital Download on March 21 courtesy of Lionsgate UK. To mark the occasion we've got five Blu-rays to dish up...

## Question:

Who plays the role of President Snow in the four *Hunger Games* movies?

## Answer:

A) Donald Sutherland B) Danny Glover  
C) Dustin Hoffman

Email your answer with '*Mockingjay 2*' as the subject heading – and don't forget to include your postal address!

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# Certified: AV-Holic!

HCC reader **Steve** converted his garage into a movie and music space complete with hidden storage and some high-end hardware. Now he's in the process of selling up and is already planning his next home cinema project



## Introduce yourself!

Hi, I'm Steve. I'm 43 years old and I manage a consumer online business.

I've been into home cinema from a young age.

I must have been in my early teens when I first set up an old stereo with large speakers to a TV in the spare room so I could have a bigger sound. During the early 1990s I bought a second-hand 55in rear-projection TV. It was massive in my small living room but gave a much bigger screen than what you could normally buy at the time. Then later on in my early '20s I imported a DVD player from the US, along with five movies as there were no movies here in the UK at that time. My first

proper 5.1 setup included a 50in Kuro plasma screen (which I still have) and a Denon amp with Bowers & Wilkins M1 speakers and a PV1 sub. I had a detached house then so could really push up the volume to get the most from the system with those big action flicks.

## And what about your current cinema room?

I'd always wanted a dedicated movie/media room and we had a double garage which we didn't use, apart from for storing stuff. We have two young boys and my wife wanted a utility room and a dedicated playroom for the kids, so we decided to extend and convert the garage to create the extra space. I managed to get a 3m x 6m room for my cinema. Because it

was a full conversion, I had the luxury of being able to get a 7.2 setup with all cables hidden and creating the maximum experience possible. I wanted to ensure that the image filled my whole vision, so I put in a 2.8m-wide screen to fill the wall. This has an amazing effect – you're really immersed in the movie. I was sure the screen was too big for the room and seating position, but my wife was amazed.

## How long did the build take?

The whole conversion took over eight months, but this included four rooms and a garage.

## The screen hides your disc collection and AV gear...

I got some help to build this. The screen frame



was light, but needed to be strong enough to hold its own weight as you swing out what is essentially a 2.8m-wide door! A diagonal beam was required to give the frame strength. We also needed a number of clips and door magnets to lock the screen in place when in position to stop the frame from dropping. I then had to position the speakers to ensure they weren't being obstructed in any way – this was

**'I'd always wanted a dedicated movie room and we had a double-garage that we weren't using...'**

the advantage of having floorstanders behind the screen as these were easily rearranged. The whole setup had to be very precise. I measured all the speaker placements (including cone positions) and AV equipment behind the various parts of the screen and doors underneath. I even built a custom pull-out shelf for the record deck, so that it would be hidden when not in use and act as a decoupler from the other AV gear.

### What kit are you using?

I'm using a JVC DLA-X500R projector with an Acoustic Pro 4K 120in screen. The speakers are two PMC twenty.24s and a PMC twenty.C for the front stage (using Chord Epic cable), plus PMC Wafer 2s for the surrounds and B&W CCM684s for the in-ceiling rears. Then there is a pair of B&W PVID subwoofers for bass. The AVR is an Anthem MRX 710.

Sources: an Oppo BDP-103D Blu-ray player; Apple TV; Amazon Fire TV for use with Plex (with files streamed from a QNAP server); Sky box used as a Freesat box; a PlayStation 3; Pro-Ject turntable; and an Audiolab M DAC. I also use a touchscreen RTI remote for control.

### Is the room sound treated?

Not only did we use acoustic plasterboard, we used acoustic insulation to reduce noise between the room and the rest of the house, which works a treat. I can watch some movies late at night and the rest of the family can sleep soundly.

### What do you love the most about the room?

It's makes it a real experience, like going out to the cinema. It's not just watching a movie on your sofa with an iPad where you are only part-engaged in the action. Having a dedicated room makes it an occasion. It's also been great for the kids to enjoy some of their movies. It has become a place where we can sit down together as a family rather than be distracted by other things.

### How do you rate the performance of the JVC PJ and the PMC/Anthem system?

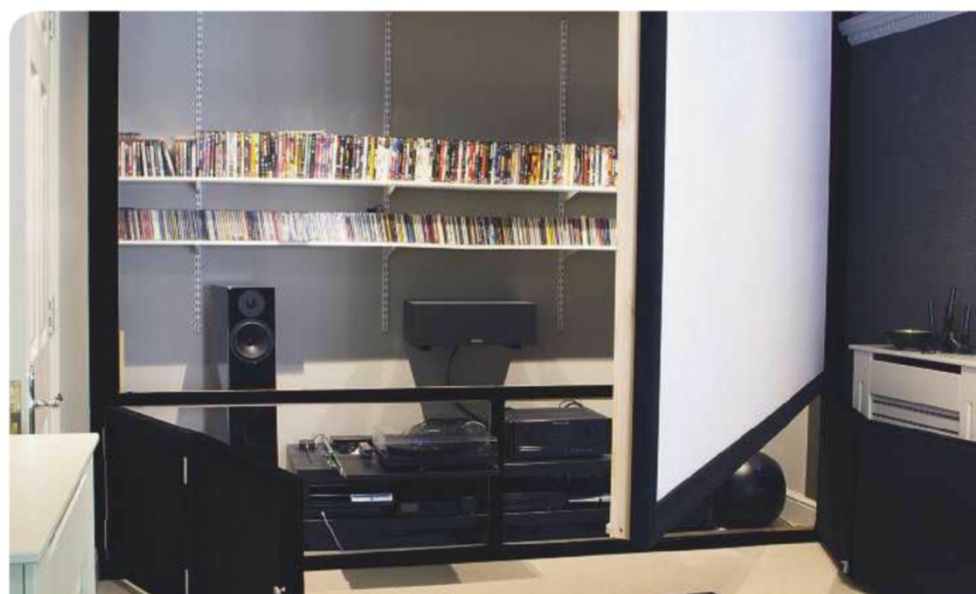
I spent months looking for the right setup, reading your mag and researching forums and attending Sound & Vision: The Bristol Show. Some of the systems I tested for sound struggled with action movies; a lot of noise was going on around you but you couldn't hear speech. I was also looking for a system that would be good for music. After a number of months, I found the perfect match in Anthem and PMC. The room setup with Anthem (ARC) was great and I really noticed a difference when I upgraded my amp from a Denon, and the PMCs have a great mid-range with lots of clarity.

In terms of the projector, I was fortunate enough to see a demo of a Sony 4K model next to the JVC, looking at the same picture. The JVC had a superior black level to the Sony and while the Sony was a little sharper it didn't justify the price difference so I decided to opt ➤



For projection, Steve demo'd a JVC eShift model and a Sony 4K machine – the JVC won out on black levels and price tag

The room's sizeable 16:9 projector screen is mounted on a custom-built hinge mechanism. When it's pulled out it reveals a behind-the-screen space where our AV-Holic keeps his film and music collection. Doors below the screen open up to provide access to the AV stack





for the JVC until there was more 4K content around and at a lower price. Since then I've been really pleased with the projector but I also realise how important the screen is too.

### How much have you spent on the room?

It's hard to say, since the build costs were part of a wider project. However, I spent months buying various items on eBay/ex-demo and getting discounts where I could. I would say it cost around £13,000.

### What's your favourite bit of kit?

A hard one to call. The Anthem amp is amazing when paired with the PMC twenty speakers. This is followed closely by the projector.

### And what's next on your list?

Actually I'm just about to move house, so am now on to a bigger project! I aim to use some of my existing equipment, but am looking forward to getting a 3.8m-wide screen with my

JVC projector and there is the new Anthem MRX 1120 receiver with Atmos [see p7], so that's a must on my list. I'm also looking at speakers from Origin Acoustics for surrounds. And when 4K content becomes more available a true 4K projector will definitely be on the agenda.

### So you've got an eye on 4K and Dolby Atmos/DTS:X?

Yes, most definitely. The space in my new house is my big project for this year. I have the perfect room for a large 2.35:1 screen with a 7.2.4 setup as I will have access in the walls and ceiling, and I'll be able to create a hidden door to get behind the screen. Really looking forward to finding a system that pushes it to the next level.

### What do friends and family think of the cinema room?

It blows them away, almost literally! They're



**Above:** An RTI touchscreen remote controls the system

**Left:** For the surrounds, Steve uses PMC Wafer 2 on-wall speakers. White grilles help them blend in to the room

all amazed at the picture and sound quality, and how sharp the picture is at the size being projected. They all say it's better than going to the cinema.

### What discs do you use to show it off?

*Gravity* in 3D is brilliant when the room is dark. For sound and picture, the start of *Transformers: Age of Extinction* is excellent as the picture is super-sharp followed by a deep thud when the spaceship fires its weapons.

### And, lastly, what are your favourite films?

Anything with action and great surround sound effects! I think the latest *Fast & Furious* movie just gets better and better. The last few James Bond films have all looked and sounded amazing, too ■

## Share your system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips for great-looking pictures:

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch

movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.

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# PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **SPECTRE** Bond's biggest adventure yet, but is it also the best? **THE MARTIAN 3D** Red Planet blockbuster dazzles on Blu-ray **THE GOOD DINOSAUR** Pixar goes prehistoric **PAN 3D** Family fantasy doesn't lack for stereoscopic thrills **MR. ROBOT** Just because you're paranoid doesn't mean they're not out to get you & MORE!



## Appetite for destruction

The Hunger Games: Mockingjay – Part 2 3D → Lionsgate → Region B BD

The hit sci-fi franchise gets ready to bow out with its epic final instalment – and this time around the series will be showcasing its 3D talents. Turn to p98 to see if it's been worth the wait...

### HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★
Acceptable	★★★
Disappointing	★★
Dire	★

All prices quoted are approximate and may have changed





Things got pretty hairy for Team GB in the relay at the Rio 2016 Olympics



# The end of an era for Bond?

Director Sam Mendes stretches the franchise formula to breaking point with this epic sequel



## → SPECTRE

Following a trail of clues around the globe, Bond (Daniel Craig) encounters enemies old and new, most notably Franz Oberhauser (Christopher Waltz), the head of a shadowy organisation known as Spectre who has his own link to 007. Back in London, while Bond is playing rogue agent elsewhere in the world, M (Ralph Fiennes), Q (Ben Wishaw) and Moneypenny (Naomie Harris) are left to deal with the machinations of C (Andrew Scott), who wishes to see the closure of the aging '00' division and push the UK to the forefront of digital intelligence services.

*Spectre* is spectacular. Rarely does Bond end up anywhere in the world that doesn't involve him getting into an action-packed chase involving a helicopter, a plane, a supercar or a boat. But for some reason none of it is blood-pumpingly exciting. Instead, it all feels far too austere and polished – there's no sense of danger when everything feels so calculated and meticulously planned.

Planned? Yes. Although when the story finally pulls back the curtain on Oberhauser and reveals his connection to Bond, it's such a contrived and inane piece of plotting that it robs criminal organisation Spectre of any real menace. It also saddles one of Bond's best-loved baddies with the next-best-thing to sibling rivalry as his driving motivation.

Grumbling aside, there's more than enough here to keep franchise fans hooked. Craig is more relaxed than ever in the role and, as mentioned above, it all looks absolutely sensational. But we do hope that if Craig does come back for one more ride, the Bond series can rediscover its escapist roots.

**Picture:** While *Skyfall* was shot entirely digitally, director Sam Mendes and his team have returned to film (minus a few digital shots) for *Spectre*.

In truth, while it lacks a little of its predecessor's gloss and features a noticeable (but well refined) grain field, *Spectre* opts for a similarly stylised aesthetic. Each location has a distinctive look, with the opening sequences during Mexico City's Day of the Dead festivities filling the screen with a riot of colour, while the night chase through the deserted streets of Rome looks suitable cool and shadowy. All told, it's a very impressive, razor-sharp 2.40:1-framed Blu-ray encode.

**Audio:** *Spectre*'s DTS-HD MA 7.1 mix delivers everything you'd want from a modern Bond movie. A dynamic soundstage packed with spatial effects? You got it. Room rattling bass? Absolutely. A memorably epic theme song? Err...

**Extras:** Here's where this BD has its license to thrill revoked. There's a 20-minute look at shooting the opening sequence, six brief promo videos, three trailers and a gallery. And that's it.

*Spectre* always looks incredible



## HCC VERDICT

### Spectre

→ Twentieth Century Fox  
→ Region A/B BD → £25

**WE SAY:** An enjoyable but flawed attempt at bringing the Daniel Craig era to a close. The lack of extra features is unforgivable, however

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★



## Black Mass

Warner Bros.  
All-region BD → £25



*Black Mass* certainly sounds good: a throwback to the classic crime films of the '70s based on the true story of infamous South Boston gangster James 'Whitey' Bulger, with an impressive cast including Johnny Depp (as Bulger), Kevin Bacon and Benedict Cumberbatch. But this drama turns out to be dull; the most fun comes from seeing who delivers the most mangled Boston accent. The best part of this Blu-ray is an hour-long doc about the hunt for Bulger when he went on the run, although the AV quality is as good as you'd expect from a modern Hollywood production.



## The Lobster

Picturehouse Entertainment  
Region B BD → £23



In the near future, single people from 'The City' are taken to 'The Hotel'. Here they are given 45 days to find a romantic partner or they are transformed into an animal of their choosing. As surreal and freaky as it is, Yorgos Lanthimos' *The Lobster* (starring Colin Farrell) is also surprisingly approachable and a very funny satire about the horrors of dating. Picturehouse Entertainment's Blu-ray doesn't offer much in the way of extras, but when it comes to the film's crisply defined 1080i50 imagery and subdued DTS-HD MA 5.1 audio mix, it never puts a foot (or claw) wrong.



## Maze Runner: The Scorch Trials

Twentieth Century Fox  
Region B BD → £25



Having escaped the titular maze at the end of the first instalment, the heroes of this Young Adult sci-fi series are now adrift in a generic post-apocalyptic wasteland, fleeing zombies and avoiding the nefarious WCKD organisation (can you see what they did there?). Even though it has ditched its sole USP, this franchise still knows how to deliver exciting action scenes. The Blu-ray is also a bit of a belter thanks to its pin-sharp HD visuals, dynamic DTS-HD MA 7.1 audio and generous array of extras, the centrepiece being an excellent six-part *Making of...* documentary.



# From street urchin to super boy

Peter Pan's origin may be less interesting than you'd expect, but it looks great in 3D

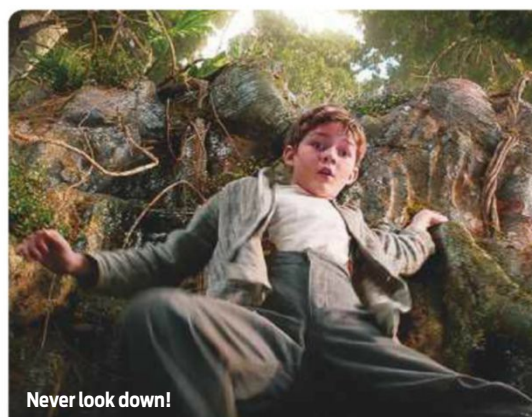
## → PAN 3D

Have you ever wondered about the origin of Peter Pan? Not the story's origin as a play by J.M. Barrie, but the previously untold story of how Peter became the hero of Neverland? No? Us neither. But it seems that somebody in Hollywood thought it was a good idea.

*Pan* gets off to a surprisingly fine start, with mischievous 12-year-old Peter (Levi Miller) dealing with life in an odious orphanage, then being swept up by bungee-jumping sky pirates whose ship battles Spitfires over London before making tracks for Neverland. But once in Neverland the script morphs into a predictable 'Chosen One' story. You can almost count off the clichés as Peter teams up with the Indiana Jones-styled loveable rogue James Hook (Garrett Hedlund) and the bafflingly Caucasian Tiger Lily (Rooney Mara) as they race against time to save the fairies from the deadly Blackbeard (Hugh Jackman in pantomime mode).

*Pan* is very pretty to look at but the story never recaptures the sense of imagination or excitement witnessed in the film's opening act. And if you're wondering how Pan and Hook became mortal enemies, you'll have to keep on guessing, as it was presumably held back for a sequel that we doubt will ever happen.

**Picture:** It may not have been shot in native 3D, but *Pan* was clearly lensed with it in mind at all times. In fact, we'd go as far as to call this one of the best stereoscopic Blu-rays we've seen in quite some time. Volumetric effects feel extremely natural, and there are plenty of sequences throughout the film that use 3D effects in inventive ways (check out the shots of



Never look down!

Peter interacting with the 'planets' during the trip to Neverland in Chapter 2). Contrast and colour saturation are also excellent.

The 2.40:1-framed 'flat' version also included in this set is equally flawless, but watch in 3D if you can.

**Audio:** *Pan*'s Dolby Atmos soundtrack is a lively, cartoonish affair that never wastes an opportunity to expand the action deep into your room. Indeed, scenes such as the pirates snatching kids out of their beds (Chapter 2) and the attack on Tiger Lily's village (Chapter 6) both make stunning use of the height layer. You want bungee-jumping buccaneers dropping down from above you? You got it.

**Extras:** The 3D platter is barebones, but the 2D disc offers up a modest collection of extras. Best of the bunch is the commentary by director Joe Wright, who proves a solid guide to detailing the making of the movie. Also included are four brief featurettes looking at specific aspects of the production.



## HCC VERDICT

### Pan 3D

→ Warner Bros.  
→ All-region BD → £28

**WE SAY:** A mildly entertaining fantasy romp that benefits from sensational 3D imagery

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★





# Finale stays on target

The blockbuster *Hunger Games* franchise hits the bullseye with this bravura final instalment



## DEMO SCREEN...

### The Hunger Games: Mockingjay – Part 2 3D

Time code: 091.54 – 094.50



**Undercover:** Katniss and Gale hide out among refugees flooding the streets outside Snow's mansion, but still look set to be discovered by Peacekeepers...



**Streets of rage:** Their discovery is averted by the arrival of the rebel army, which starts fighting a street battle against Snow's remaining troops



**Fire in the skies:** Rocket-fire takes out a Peacekeeper outpost, with the Dolby Atmos mix spatially elevating the placement of the explosion in the soundstage



**Car wars:** Katniss and Gale's attempt to move on comes a cropper when an armoured car they were sheltering by explodes into flames with an LFE kick



## → THE HUNGER GAMES: MOCKINGJAY – PART 2 3D

Picking up exactly where *The Hunger Games: Mockingjay – Part 1* left off, this franchise closer opens in *media res*, with the realisation of what happened to her former Games teammate Peeta (Josh Hutcherson) giving Katniss (Jennifer Lawrence) a new thirst for revenge against President Snow (Donald Sutherland).

Determined to kill Snow personally, Katniss sneaks aboard a rebel supply ship and joins one of the raids on the Capitol. But even if she manages to make it through the deadly booby-traps that Snow's Gamemakers have left littering the streets, Katniss must deduce whether or not Peeta really has overcome his brainwashing, or if he's simply waiting for the perfect opportunity to kill her...

After the downbeat *...Mockingjay – Part 1*, we admit to being a little worried that this dystopian drama would struggle to give Katniss the send-off she richly deserves. The last film made the mistake of running on the spot for two hours and turned Katniss into a passive participant. Hooray, then, that this epic finale sees her return to the role of punchy protagonist, spearheading the assault on the Capitol that provides the bulk of the narrative.

There's no shortage of action this time around, either. The booby-trapped locales provide a couple of terrific pieces of spectacle, while the underground encounter with the Mutts feels like it's been ripped straight out of Guillermo del Toro's *Blade II*.

At its best, *The Hunger Games* has always been about more than mere action. And in the case of *...Mockingjay – Part 2* it arrives from Katniss finally coming face to face with the cost of the rebellion. This is a film that pulls no punches in spelling out the high price the population pays in times of war, while leaders on both sides stay far removed from the action. It's here, in the satirizing of combat in the TV age, that *The Hunger Games* series reveals itself to be a remarkably potent antiwar story – even if it means putting up with 'the whole trashy romance drama' as one character so memorably describes it. A brilliant finish to an enjoyable series.



When in doubt, whip out the Sat-Nav...



Katniss prepares for her meeting with President Snow

**Picture:** Made back-to-back with its predecessor, using the same kit and team, *...Mockingjay – Part 2* cuts a very similar figure on Blu-ray.

Shot digitally on Arri Alexa cameras, the 2.40:1-framed 1080p encode is sharp and well-defined, with loads of depth and detail to be seen in brightly-lit shots. Once again there's a tendency towards blue and amber tints in the digital grading, which gives some sequences a slightly murkier look, but blacks generally stay true and there's a fair amount of pop to even the darkest scenes.

If it all stopped there then we'd be ending on a high, but for some reason (money) Lionsgate decided that it would convert *...Mockingjay – Part 2* into 3D. While not a *Clash of the Titans*-style disaster, there's very little here that makes creative use of the extra dimension (the best example is a shot of the ground covered in bullet casings, which seems to stretch out from your display into your room during a booby-trap in Chapter 7). For the most part the film is simply too dark for the 3D to have any real impact, other than dropping the brightness even further and making sequences such as the subterranean Mutt attack (Chapter 10) even harder to follow.

**Audio:** This Blu-ray's Dolby Atmos mix does a brilliant job of adding extra scale, to the front of the soundstage in particular. The action scenes are wonderfully immersive, but the most effective moments are some of the most mundane, such as the sound of engines whipping a wind around and above you as Katniss watches a group of bombers taking off (Chapter 2).

With plenty of LFE weight and devastatingly effective use of the surrounds (head to Chapter 10's Mutt attack, again!), plus crystal-clear dialogue and presence given to the score, it's an aural thriller all-round.

**Extras:** Given the paucity of extra features afforded to so many modern blockbusters, it's a treat to come across an HD platter of a studio tentpole title that is packed with bonus goodies. In addition to a commentary by the director and producer, Lionsgate delivers a mahoosive 142-minute *Making of...* documentary that is well worth investigating, plus a fascinating 10-minute profile of stills photographer Murray Close and a nine-minute video about designing the *Mockingjay* armour. Finishing things off is an advert for *The Hunger Games: The Exhibition*.



(Below) The *Mockingjay* armour is the focus of one of the disc's featurettes



### HCC VERDICT

#### *The Hunger Games: Mockingjay – Part 2* 3D

→ Lionsgate  
→ Region B BD → £28

**WE SAY:** Despite the lacklustre 3D, this is a spectacular hi-def outing for an impressive blockbuster finale

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★



## Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



### Far Cry: Primal

Ubisoft → PS4, Xbox One, PC → £55

After *Far Cry 3* and *Far Cry 4*, with their excellent narratives and open-world first-person shooter action, many wondered how Ubisoft would follow them up. Maybe it would set the action in the Australian outback or a more urban area this time, crossing *Grand Theft Auto* street smarts with bombastic bullet fests. But what it has given us is perhaps unexpected. *Far Cry Primal* is a swerve in a very odd direction indeed. And we love it.

The game can be described as a prequel of sorts, being set before the action in all of the *Far Cry* games that have gone before; more than 10,000 years before, in fact. It is set in a time of warring tribes, woolly mammoths and sabre-tooth tigers. The most amazing technological advancement is being able to start a fire using bits of rock. It's not for FPS fans who favour an Uzi.

But high-end weapons of mass destruction aside, *Far Cry Primal* is still a first-person shooter. You can and indeed need to craft a bow, throw spears and use other sharp/pointy objects to dispatch enemies and wildlife in equal measure. You also get to roam the large, open land of Oros, encountering story and random missions that wouldn't seem out of place in more modern titles.

Where it most differs is pace. Patient players will spend hours in real time hiding in bushes in order to stalk an elusive mammal so they can get the materials to make a better quiver. And finally in a *Far Cry* game, hunting and killing animals is not just a sideshow, it's a necessity. You will learn to befriend them, too, as your character, Takkar, is a beast master of the Wenja tribe (which he's trying to save). Caring for your vicious pets and the rest of your tribe makes for a very different experience. As does the fact that the gaming environment is lush, overgrown and, for the most part, only accessible by foot. It's therefore a pleasant departure from the norm, and with crisp Full HD vistas (or 4K through the PC version on compatible systems) and its evocative audio, you'll enjoy taking it all in.

*Far Cry Primal* is an unusual FPS, then, but all the better for it. Solid, immersive fun with hours of gameplay.



## Brooklyn

StudioCanal  
Region B BD → £23



This screen adaptation of Colm Tóibín's award-winning novel tells the unashamedly romantic tale of an Irish expat caught in a love triangle. While this all sounds like it could be rather trite, the combination of Nick Hornby's witty script and Saoirse Ronan's incandescent lead performance transforms the material into something genuinely spellbinding. StudioCanal's Blu-ray sports strong 1080p visuals and detailed DTS-HD MA 5.1 audio, but is rather lacking when it comes to extras, offering just 10 deleted scenes, two short interviews and a promo featurette.



## Carol

StudioCanal  
Region B BD → £23



First published pseudonymously in 1952 under the title *The Price of Salt*, this lesbian love story was author Patricia Highsmith's sole foray outside the crime genre. That said, this awesome screen adaptation by director Todd Haynes demonstrates clear links to the rest of Highsmith's work, the only difference being that love is the crime here. Shot on Super 16 stock, *Carol* boasts a tactile and richly coloured 1080p encode on Blu-ray, while the DTS-HD MA 5.1 mix handles dialogue and music beautifully. Half-an-hour of Q&A highlights and eight behind-the-scenes vignettes (36 minutes) are also included.



## Steve Jobs

Universal Pictures  
All-region BD → £25



Guided by Aaron Sorkin's superb script and a great central performance from Michael Fassbender, this audacious biopic of the Apple co-founder offers a fascinating study of a celebrated, captivating character. Danny Boyle's electrifying direction lends the very talky subject matter a cinematic visual style, something that this Blu-ray reflects expertly, particularly when it comes to the encode's handling of the different formats used for each of the film's three acts (16mm for 1984, 35mm for 1988 and digital for 1998).







DISC  
OF THE  
MONTH



# Matt Damon's life on Mars

A-lister leads this crowd-pleasing sci-fi flick that partners its dramatic story with visual charms

## → THE MARTIAN 3D

Sometimes Hollywood is at its best when it doesn't dither. The source material for this brilliant sci-fi drama (Andy Weir's novel of the same name) was first published in 2011. Four years later the movie was in cinemas, carrying a heavyweight cast led by Matt Damon and with Ridley Scott behind the camera. By comparison, *Bad Boys III*, set for release in 2017, has been in development since 2008...

The movie follows Damon's NASA astronaut/scientist Mark Watney, left for dead on Mars after an accident during a sandstorm. In the spirit of Robinson Crusoe, he sets about struggling to survive in the abandoned base, knowing that the next manned Mars mission is four years off. And more drama comes from the NASA team back on Earth when they finally discover Watney's predicament.

This is a joyous adventure, shot through with humour – rather than psychological introspection – and plenty of nerd-pleasing science, book-ended by edge-of-seat set-pieces. Don't miss it.

**Picture:** Framed at 2.40:1 and elegantly lensed by cinematographer Dariusz Wolski, *The Martian* looks resolutely cinematic, and the impact is helped considerably by this peerless Blu-ray

presentation. Sharpness, particularly in close-ups, is a major strength, so that sequences such as Watney conducting surgery on himself are teeth-grindingly tense. Extensive colour grading (there's a lot of orangy-red here, unsurprisingly) means the image doesn't exactly look naturalistic, but contrast is never pushed so high as to grate. And after the dull *Exodus: Gods and Kings*' 3D experience, *The Martian* marks a return to the sort of stereoscopic grandeur and coherence of Scott's *Prometheus*, finding depth in even the darkest sequences.

**Audio:** With Fox still ignoring Atmos on Blu-ray, the 7.1 surround mix here is DTS-HD MA flavoured. *The Martian* is a film that prides itself on its commitment to realism, and the soundtrack is similarly well-mannered. Your whole speaker battalion, including the subwoofer, gets a work out during scenes like the sandstorm/emergency take-off, but at other times surround activity is tempered while dialogue-led drama takes centre-stage. The score sounds fulsome, but is a bit dull – we preferred the '70s disco tunes that Watney passes the time with...

**Extras:** Six of the eight featurettes here are 'fake' TV snippets that deal with the film's story after its conclusion. So, for instance, you get Damon in character chatting about the rest of his crew. Probably a good idea on paper; the two standard featurettes covering writing and casting are better. There's also a gag-reel and gallery of production art. Online rumours suggest a Special Edition release (with a longer edit and more extras) is coming later this year. Many will want to double-dip.



In space, everyone can hear you growing your own potatoes...



## HCC VERDICT

### The Martian 3D

→ Twentieth Century Fox  
→ All-region BD → £28

**WE SAY:** Superb sci-fi drama with gorgeous visuals and robust sonics, but we expect a Special Ed. release later in the year with more extras

Movie: ★★★★★

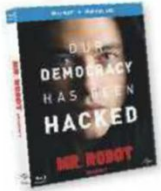
Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★





# Domo arigato, Mr. Roboto!

Superb new drama series explores the impact of tech on modern society

## → MR. ROBOT: SEASON 1

Antisocial computer genius Elliot (Rami Malek) leads a double life. By day he works for cyber security firm Allsafe. By night he uses his tech skills to hack people's personal lives and, when he discovers any wrong-doing, sets out to shut them down like some kind of online version of the Equalizer.

Elliot's neatly ordered life is thrown into turmoil, however, when he's approached by the mysterious Mr. Robot (Christian Slater). Robot is the head of a hacker outfit calling itself 'fsociety', and wants Elliot's help bringing down multinational E-Corp, which just happens to be Allsafe's biggest client.

What follows in this 10-episode debut season is a riveting mix of conspiracy thriller and character study. Okay, so Elliot may be pulled from the same lineup of borderline autistic, asocial 'heroes' that gave us Elizabeth Salander (*The Girl With The Dragon Tattoo*) and Saga Norén (*The Bridge*), but *Mr. Robot* makes you experience the world from his point of view, ensuring that he feels like a fully rounded character.

It also goes to great lengths to make its 'hacking' scenes appear realistic, something Hollywood has always shied away from in the past, preferring fancy, swirling virtual landscapes. The show's adherence to authenticity has its own built-in thrills that come from the perceived reality of what you're watching – even if you don't understand a word of the code being written on screen.

Nor is *Mr. Robot* afraid to pull the rug out from under you, meaning you've no idea exactly where this superb series is going to end up.



**Picture:** The 10 episodes that make up *Mr. Robot: Season 1* are spread across two hi-def platters and look very impressive indeed.

The show's palette veers towards a rather muted colour scheme, be it the stark interiors of E-Corp's HQ or the dark squalor of Elliot's apartment. Despite this, clarity and detailing remain strong across the AVC 1.78:1-framed 1080p encodes, with no shortage of fine textures on display. Black levels aren't always true, but nor are they problematic. Noise only occasionally rears its head.

**Audio:** As it's not the most dynamic show around, the true strength of the DTS-HD MA 5.1 mixes is the immersive way they handle the show's superb electronic score. Dialogue is prioritised in the tracks and there's reasonable LFE presence, too.

**Extras:** All we get are nine deleted scenes, a gag reel and an all-too-short (12 minutes) *Making of...* featurette. Disappointing.



## HCC VERDICT

### Mr. Robot: Season 1

→ Universal Pictures  
→ All-region BD → £30

**WE SAY:** A superb HD presentation of TV's smartest new show. It's just a shame about the lack of extras

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★☆☆☆

OVERALL: ★★★★★

## "Doc"

Signal One Entertainment  
Region B BD → £20 approx



Frank Perry's enjoyably gritty 1971 Western proffers an alternate account of the now-legendary events that took place in the town of Tombstone. This time out the focus is firmly on Doc Holliday (Stacey Keach), recast here as a former gunslinger looking to settle down with Kate Elder (Faye Dunaway) only to be dragged back into his former life by his manipulative and greedy old friend Wyatt Earp (Harris Yulin). While the off-the-shelf HD master isn't in the best shape, the BD's 1.85:1 1080p encode is perfectly watchable and is joined by some rewarding extras, including interviews and a chat-track.



## Underground

BFI → Region B BD &  
R2 DVD → £35



Emir Kusturica's award-winning tragi-comic farce about friendship and betrayal makes a very strong showing via this limited edition dual-format set. Not only does it include a beautiful 1.85:1 Full HD version of the 170-minute cinema cut, two accompanying DVDs feature an SD version of the 309-minute(!) six-part TV edit. Also included are a 73-minute *Making of...*, 12 'EPK Items' (interviews and behind-the-scenes footage), and a 30-page booklet. While the setup menu on our BD review sample claimed to offer a DD5.1 mix, when activated it turned out to be a punchy DTS-HD MA 5.1 mix.



## Dr. Goldfoot: The Complete Collection

101 Films → Region B BD &  
R2 DVD → £30 approx



Vincent Price may have starred in some classic films during his lengthy career, but he also made some absolute duds. *Dr. Goldfoot and the Bikini Machine* ('65) and *Dr. Goldfoot and the Girl Bombs* ('66) are two of the worst, a pair of unfunny spy parodies with aspects of the beach party genre thrown in. While both HD encodes impress at first glance...*Bikini Machine*'s 2.35:1 transfer appears stretched vertically. In the way of bonus bits, 101 Films has opted to throw in a DVD of the 1961 Vincent Price flick *Master of the World*.



## Wild Orchid

Eureka! → Region B BD &  
R2 DVD → £20 approx



In 1990, and before he began his slow transformation into some sort of Frankenstein's Monster, Mickey Rourke reunited with *9½ Weeks* co-writer/producer Zalman King for yet another erotic epic. Sadly, despite Rourke and co-star Carré Otis being romantically linked at the time, *Wild Orchid* is an oddly turgid affair that fails to generate any real heat. On a more positive note, this UK Blu-ray trumps the US release by also including the raunchier 'Unrated' version alongside the US cinema cut – both of which are in pretty good shape. The only extra is the theatrical trailer.





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Somebody clearly went a little crazy during their last visit to Accessorize...



# Pixar's prehistoric storytelling

This old-fashioned animated feature still manages to dazzle with its cutting-edge digital visuals

## → THE GOOD DINOSAUR

What would have happened if the asteroid that wiped out the dinosaurs missed the Earth? According to Pixar's latest 'toon, the giant reptiles would have evolved to the point where, millions of years later, they can not only talk, but also farm the land and construct rudimentary buildings. And humans have remained primitive scavengers.

When cowardly young sauropod Arlo gets lost after a flash flood, he must conquer his fears and head into the unknown to find his way back home. His only companion is 'Spot', the feral human child he blames for the death of his father.

Arriving in the wake of the sublime *Inside Out*, *The Good Dinosaur* feels like a lesser Pixar effort. While that film demonstrated an emotional depth above that of most live-action Hollywood flicks, this latest CG blockbuster is more akin to those old *The Land Before Time* 'toons.

Yet *The Good Dinosaur* can still hold its long neck up above the likes of *Cars 2* and *Monsters University*. The dog-like 'Spot' is the film's biggest success, a brilliant piece of reverse anthropomorphism that brings some much needed energy to the story. Pixar also drums up some superb supporting characters, including director Peter Sohn's witty turn as a demented New Age Styracosaurus and Sam Elliott as a grizzled T. rex cattle herder. It's these



elements that help make the film memorable, even when the story itself is pretty forgettable.

**Picture:** *The Good Dinosaur* employs a curious mix of extremely cartoonish character models and photo-realistic backdrops. While the clash of styles won't work for everyone, it's hard to imagine you not being utterly blown away by the Blu-ray encode's technical prowess.

Clarity and sharpness are both first-rate, ensuring that every shot is packed with intricate details and textures. Colours are beautifully saturated, with the locations favouring an authentic palette of earthy browns, verdant greens and endless blue skies.

**Audio:** Disney's Blu-ray defaults to a DTS-HD High Resolution 5.1 track, but the Setup menu allows you to switch over to a DTS-HD Master Audio 7.1 mix.

This lossless presentation proves to be a very satisfying audio experience with some weighty bass and excellent spacing around the soundstage (check out the fight with the cattle rustlers and subsequent long-horn roundup that runs from Chapter 19 to 21). There are also plenty of subtle atmospherics employed around the speaker array to help bring the prehistoric world to life. Very impressive.

**Extras:** Unlike with *Inside Out*, fans won't have to try and track down a store-exclusive limited edition to get their claws on the full array of bonus bits and pieces. These take the form of the *Sanjay's Super Team* short that played with the film in cinemas, a chat track, three deleted scenes and five featurettes looking at the making of the movie and a build-a-dinosaur competition run at Pixar.

### HCC VERDICT

#### *The Good Dinosaur*

→ Walt Disney  
→ All-region BD → £25

**WE SAY:** It may be an average Pixar film, but this HD platter still delivers a top-tier home cinema experience

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

**OVERALL:** ★★★★★



## American Ultra

Entertainment in Video  
Region B BD → £25



Playing out like the slacker alternative to Jason Bourne, *American Ultra* follows stoner Mike Howell (Jesse

Eisenberg) who, unbeknownst to himself, is actually a CIA sleeper agent. A stoned cold killer, if you will. So, when the agency decides its time for Mike to be eliminated, his creator activates him, and so begins a long night of violence and destruction. Sadly, the film is every bit as lazy as its hero (pre-transformation), sign-posting twists miles in advance and providing little in the way of laughs or excitement. Picture and sound are both excellent, though, and the disc offers a decent *Making of...* doc.



## Frankenstein

Signature Entertainment  
Region B BD → £16



Just when you thought that filmmakers must have run out of things to do with Mary Shelley's classic novel,

along comes director Bernard Rose with a modern update that brings the same mix of social commentary and horror that made his '92 outing *Candyman* a modern genre hit. By focusing exclusively on the monster and his experiences in the world he's cast into, Rose's superior film offers a gripping exploration of the more horrific side of human nature. Devoid of bonus features, the Blu-ray at least benefits from a pristine 1.78:1 Full HD encode and striking DTS-HD MA 5.1 audio.



## Nina Forever

StudioCanal  
Region B BD → £23



Holly is sure that she's found her ideal man in Rob. But there's one problem: every time they get intimate, Rob's

ex Nina (who died in a car crash) shows up to torment them. In this brilliant film debut, British writer-directors Ben and Chris Blaine conjure up a sexy, subversive horror/love story that deals with the emotional baggage people take into new relationships in the most literal way imaginable. It's heady stuff that runs rich with jet-black humour; so naturally we absolutely loved it. The Blu-ray doesn't disappoint either, boasting strong AV performance and interesting extras.



## The Hallow

Entertainment One  
R2 DVD → £16



City folk relocating to the country and having to confront the truths that lie behind rural superstitions may be

a common trope in the horror genre, but that doesn't prevent Corin Hardy's Irish creature-feature from having plenty of fun with the setup. Denied a Blu-ray release in the UK, *The Hallow* arrives on a well-specified DVD that offers up some eerie aural thrills via its DD 5.1 mix and some worthy extras (including a 49 minute *Making of...* doc). However, the anamorphic 2.40:1 transfer struggles to resolve shadow detail, which is a bit of a problem for such a gloomy film.



# '80s sitcom comes of age on DVD

This 26-disc boxset may not be much of a looker, but for fans it's still a thing of wonder...

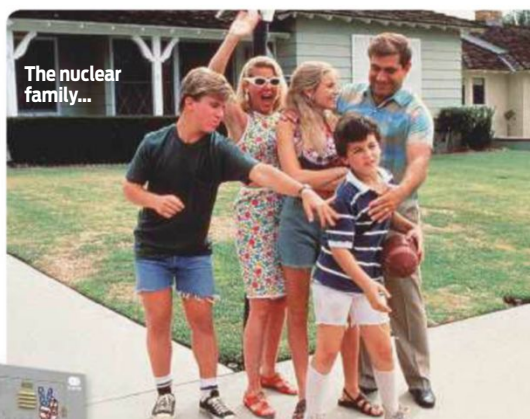
## → THE WONDER YEARS: THE COMPLETE SERIES – DELUXE EDITION

One of the most celebrated sitcoms of the late '80s, *The Wonder Years* tore up the rulebook for how family dynamics and coming of age stories could be explored in the confines of a network TV show.

Running from 1988 to 1993, the series followed a middle-class suburban family through the turbulent years of the late '60s and early '70s. Told from the perspective of youngest child Kevin (Fred Savage) – with narration from his older, wiser self (Daniel Stern) – it may have begun on paper as a way to trade on baby boomer nostalgia, but it quickly became much more than that. Brilliantly written and beautifully acted, *The Wonder Years* operates within a specific historical period but remains timeless.

**Picture:** Like most US shows of the era, *The Wonder Years* was shot on film (16mm in this case), but editing and post-production was all completed on video.

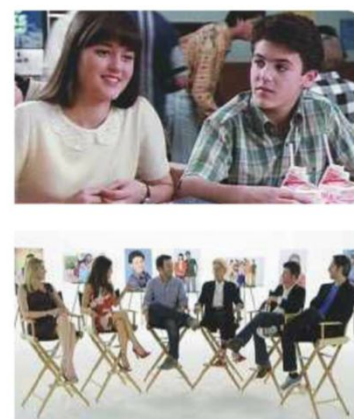
Now, in the case of something like *Star Trek: The Next Generation*, projected sales mean that it is cost effective for Paramount to go back to the original film elements and recreate the episodes in HD and release a remastered version on Blu-ray (with newly rendered visual effects). While *The Wonder Years* doesn't have to worry about recreating visual effects, there's still no way that anyone was going to recreate all 115 episodes in HD. Which means we're left with a DVD release that looks like it was sourced from NTSC



video. As you'd expect, there are source-related issues with colour bleed and clarity in the 4:3 transfers, not to mention instances of 'baked-in' dirt and debris.

But it's probably the best anyone could hope for, and is on a par with the original TV transmissions. **Audio:** There are no such problems with the series' stereo soundtracks, which deliver dialogue and music with plenty of depth and range. And this boxset also represents the first time that the show has been made available anywhere with all of the original music intact.

**Extras:** This 26-disc set also serves up a whopping 23 hours of bonus features. The vast majority take the form of interviews with the principal cast and crew (including footage from a cast reunion held in 2014), but there are also featurettes about the supporting cast, home movie footage, outtakes and more.



## HCC VERDICT

### The Wonder Years: The Complete Series – Deluxe Edition

→ Fabulous Films  
→ R2 DVD → £125

**WE SAY:** While the video is nothing to get excited about, this bumper pack is an essential fan buy

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



# Box of forgotten fright flicks

Shining a light on the unsung heroes of the Stars and Stripes scare scene

## → AMERICAN HORROR PROJECT: VOLUME ONE

The first in a planned series of boxsets devoted to rediscovering and celebrating forgotten US fright films, Arrow's *American Horror Project* gets under way with this box of three flicks from the '70s.

*Malatesta's Carnival of Blood* (1973) is easily the most obscure of the bunch, having faded almost completely from view since its original release. While no masterpiece, it's a crazy fever-dream of a film involving a sinister carnival populated by flesh-eating ghouls with a penchant for watching silent films.

*The Witch Who Came From the Sea* (1976) will probably be the best known on these shores, simply because it ended up on the Video Nasties list back in the 1980s. Boasting a powerful central performance by Millie Perkins, the film is a smart and unflinching chiller that really gets under your skin.

Finally, *The Premonition* (1976) finds the adoptive mother of a young girl haunted by terrifying visions of an unstable woman coming to take the girl away. Less a straight horror than a thriller with some supernatural elements, it offers an intriguing twist on every parent's worst nightmare and is ripe for reappraisal.

A fascinating start, then, for this interesting new Blu-ray range. We look forward to finding out what future sets have in store.

**Picture:** All three films in the *American Horror Project: Volume One* have been restored from the best available elements – but given their obscurity it's hardly surprising that even these aren't in the healthiest of states.



Mr. Blood lives up to his name

So, while it's great to be able to appreciate Dean Cundy's gorgeous widescreen photography for *The Witch Who Came From the Sea*, the source print is riddled with small scratches and other marks.

*Malatesta's Carnival of Blood* looks set to be more of the same, but settles down nicely after the first reel and holds up well. *The Premonition* is the most satisfying of the trio, with strong visuals throughout. This is no doubt helped by being based on a Colour Reversal Internegative, while the others are sourced from 35mm prints.

**Audio:** These horrors come with clean LPCM mono soundtracks. Dialogue, music and Foley effects are all well-handled, even if there's not much to get your speaker array worked up.

**Extras:** Each film is accompanied by extras including commentaries, interviews, outtakes and intros by *Nightmare USA* co-author Stephen Thrower. The set also comes with a 60-page collection of essays.



## HCC VERDICT

### American Horror Project: Volume One

→ Arrow Video → All-region BD & R0 DVD → £45

**WE SAY:** A fascinating celebration of the more obscure end of the US horror scene. Bring on *Volume Two*!

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

## Deep Red: 3-Disc Limited Edition

Arrow Video  
Region B BD → £35



While packed with quality extras, Arrow's original 2011 HD release of Dario Argento's giallo masterclass suffered from a lacklustre visual presentation.

Based on a new 4K restoration

primarily using the original 2-perf negative, this second release is a huge improvement with both cuts ('*The Director's Cut*' and the '*Export Version*') looking absolutely outstanding. In addition to the original extras, it also adds a fascinating visual essay on the film, a double-sided poster and a 28-track soundtrack CD. This limited edition sold out on pre-order, but a slightly less elaborate version will follow in May.



## Audition

Arrow Video → Region B BD & R2 DVD → £14/16



A widowed TV producer whose son wants him to find a new wife sets up a series of fake film auditions in an attempt

to find the perfect woman. Little does he realise that it's the start of a journey into unspeakable terror... The film that made Takashi Miike a household name with UK genre fans, *Audition* hits BD on these shores with an authentically rough-looking 2K restoration of the 35mm interpositive. Colours are favourable over the on the old US BD, too. While the regular disc packs in lots of extras, there's a limited edition steelbook that adds an exclusive booklet.



## The Mutilator

Arrow Video → All-region BD & R0 DVD → £18



Not one of the best-remembered 1980s slashers, but *The Mutilator* (shot under the title *Fall Break*) has

stood the test of time courtesy of its energetic story and lashings of splatter. Sourced from an uncut 35mm master print tracked down at the Library of Congress, Arrow's restoration is as good as could have been expected. Extremely generous disc goodies include two chat-tracks, a new 65-minute *Making of...* doc, interviews, behind-the-scenes footage, screen tests, trailers, and original and instrumental versions of the film's absurd yet ridiculously catchy theme song.







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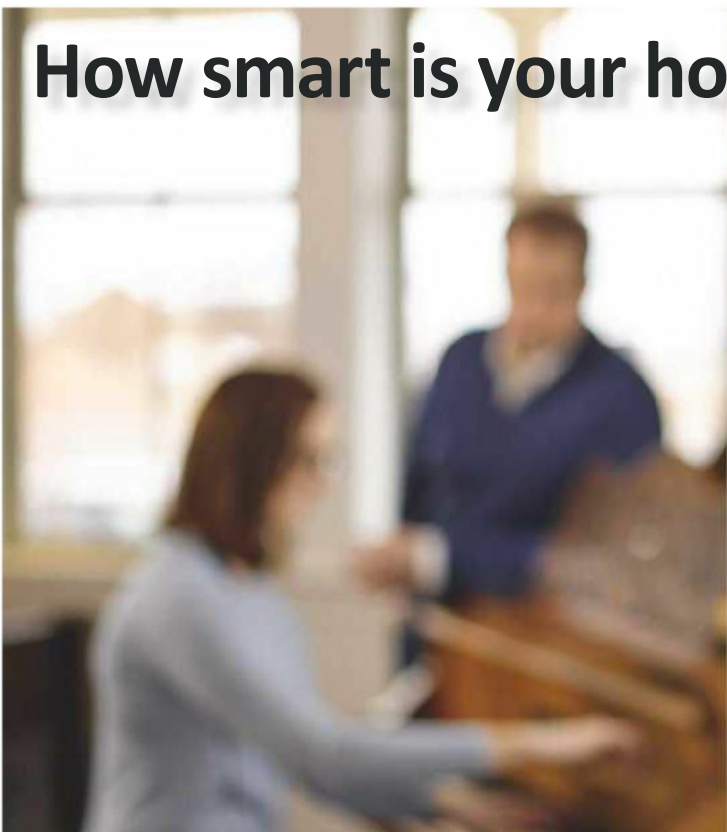
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Collecting...

# Ridley Scott

Picked up *The Martian* on Blu-ray? There are plenty of other titles from its visionary director that can claim a spot on your disc shelf. **Team HCC** picks out ten of the best

## BLADE RUNNER

A supreme slice of sci-fi/noir with an aesthetic imitated countless times in the last 30 years, *Blade Runner* sees Scott taking Philip K Dick's thought-provoking novel *Do Androids Dream of Electric Sheep?* as the starting point for two hours of downbeat brilliance, capped off by Rutger Hauer's 'tears in rain' monologue and the 'Is he?/isn't he?' enigma of Hampton Fancher's lean, mean script. A sequel, produced by Scott, is touching down in 2018.

**Get it:** As *Blade Runner* exists in numerous different edits (ranging from 1982's 'Work Print' to 2007's 'The Final Cut', the best option is to shell out for the 30th Anniversary Edition that includes them all, plus the in-depth *Dangerous Days* documentary and many more extras.

Deckard (Harrison Ford) has a unique way of crossing the road...



## ALIEN

A lights-off bigscreen showing of this sci-fi/horror is about as terrifying as home cinema gets, with Scott majoring on slow-burning tension, H.R. Giger's other-worldly designs and a few perfectly-played jump-scares. Let's be honest – your movie collection just isn't complete without it.

**Get it:** Pick up the brilliant 2010 *Alien Anthology* boxset and you can choose between the theatrical release and 2003 Director's Cut, plus kick back with the three sequels.



## GLADIATOR

The movie that kickstarted Scott's career after a string of semi-flops (remember *G.I. Jane*?), *Gladiator* harks back to the epics of Hollywood's Golden Age, helped by cutting-edge VFX that brings the Coliseum and its tetchy tigers to life. Big-budget brilliance.

**Get it:** Rest assured that any recent BD features Universal's second stab at a hi-def master rather than the edge-enhanced mess it first put out in 2009.



## THELMA AND LOUISE

The director's decision to helm a good-natured female-led road movie may have raised a few eyebrows, but this isn't Scott merely paying the bills – there's an effortless charm to *Thelma and Louise*'s storytelling and he coaxes award-winning performances from Susan Sarandon and Geena Davis as the titular stars.

**Get it:** The 20th Anniversary Edition Blu-ray serves up a blemish-free transfer and good extras (although some are SD).



## AMERICAN GANGSTER

A retelling of the rise and fall of New York drug smuggler Frank Lucas could have easily ended up like any other overblown Hollywood crime flick, yet Scott signed Denzel Washington and Russell Crowe to head the cast and went about painstakingly recreating 1970s Harlem. The result is a grand-looking, absorbing thriller.

**Get it:** Universal's 2007 BD includes an extended cut – the HD DVD release (should you be a retro-head) doesn't.





## LEGEND

Tim Curry as the Lord of Darkness! Tom Cruise as some sort of forest-dwelling hippy teen! Conflicting soundtracks! Just three of the numerous reasons that this mid-80s fantasy adventure sunk at the box office. And, sure, it's no *Alien*, but there's enough playfulness and imagination here to make *Legend* well worth a re-evaluation.

**Get it:** Fans will want the US 2010 Ultimate Edition BD. This packs two versions – one a Director's Cut with Jerry Goldsmith score, the other the US theatrical release with Tangerine Dream soundtrack, and oodles of bonus bits.



## BLACK HAWK DOWN

This ensemble cast actioner recounts the day-long firefight that followed a disastrous US mission in the Somali capital of Mogadishu, and delivers a brutal AV experience replete with what feels like an entire army's worth of ordnance whipping through your movie room. Scott's dirt-spattered visuals only add to its high-octane charms.

**Get it:** For the biggest array of extra features, check out the 2004 three-disc Special Edition DVD release. But you'll want the more recent Blu-ray's uncompressed PCM 5.1 mix, too.



## EXODUS: GODS & KINGS

Another historical adventure from Scott, albeit one that's more noteworthy for its mindboggling (and 3D) imagery than its narrative beats. The director and CGI studio MPC Film have heaps of fun building a detailed Egyptian world and taking Biblical plagues from page to screen, making sure that *Exodus...* is 150 minutes of pure home cinema eye-candy.

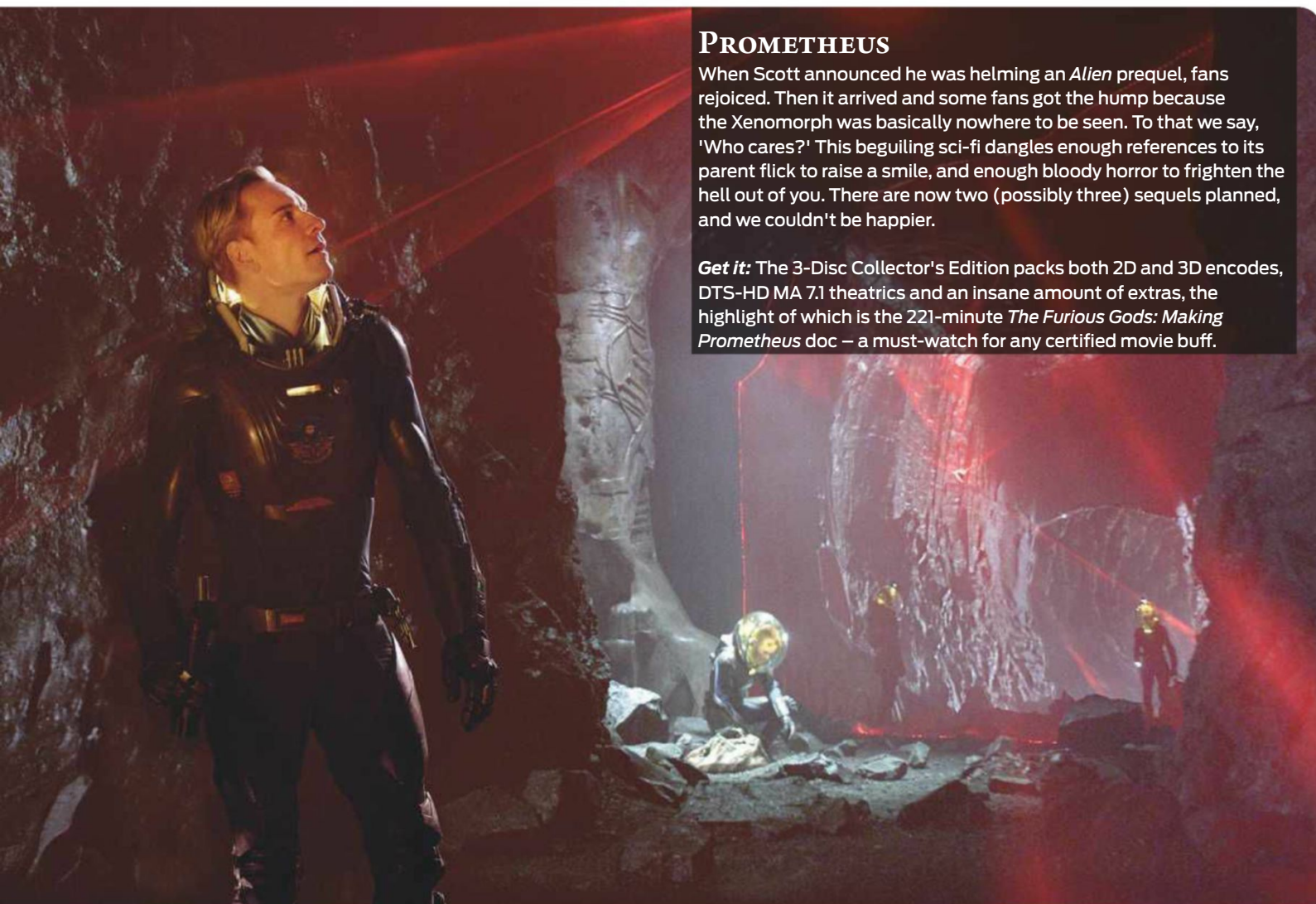
**Get it:** Last year's Blu-ray matches the sumptuous picture with a wraparound DTS-HD Master Audio 7.1 mix. An Ultra HD Blu-ray is also inbound.



## HANNIBAL

Fans had been clamouring for Anthony Hopkins' scenery (and flesh)-chewing killer Hannibal Lecter to return to cinema ever since 1991's *Silence of the Lambs*. Scott accepted the challenge and delivered *Hannibal* a decade later, a film that proves he has no problem with the stomach-churning horror and operatic violence of the source material. Gruesome, ghoulish fun.

**Get it:** There are plenty of extras on Universal's MPEG-2 UK Blu-ray (although more on the two-disc DVD release). Different boxsets collect the movie with various other entries in the series.



## PROMETHEUS

When Scott announced he was helming an *Alien* prequel, fans rejoiced. Then it arrived and some fans got the hump because the Xenomorph was basically nowhere to be seen. To that we say, 'Who cares?' This beguiling sci-fi dangles enough references to its parent flick to raise a smile, and enough bloody horror to frighten the hell out of you. There are now two (possibly three) sequels planned, and we couldn't be happier.

**Get it:** The 3-Disc Collector's Edition packs both 2D and 3D encodes, DTS-HD MA 7.1 theatrics and an insane amount of extras, the highlight of which is the 221-minute *The Furious Gods: Making Prometheus* doc – a must-watch for any certified movie buff.



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Issue No.246



Issue No.247



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# SELECT

→ **GEAR GUIDE** **TELEVISIONS** From entry-level 40in LEDs to flagship 4K monsters  
**BLU-RAY PLAYERS** Which deck rules the roost? **PROJECTORS** It's time to blow up your video!  
**AV RECEIVERS** 5.1, 7.1, 9.2 – we've got all the options covered **SPEAKERS** Killer surround sound setups  
for all rooms and budgets **PVRs** Including super-slim Freeview boxes and Sky+HD **AND MORE!**

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guide is here  
to help

## HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

## TOP 10 Televisions

**Panasonic TX-65CZ952B** → £7,500

★★★★★

The price tag and curved panel will put some off, but this OLED debut from Panasonic delivers on its high-end promise. The startling performance mixes show-stopping black levels with masterful colour handling. *HCC #256*

**Samsung UE65JS9500** → £4,000 ★★★★★

Not cheap, but that's the only real downer about Samsung's range-topper. The super-bright 4K panel is ready for incoming HDR/UHD BD content; performance is excellent. *HCC #246*

**Panasonic TX-50CX802** → £1,200 ★★★★★

This 50-incher still packs Panasonic's premium processing and Smart skills. Performance is the best yet from the brand's LED stable, with excellent presets and backlight uniformity. *HCC #252*

**Sony KD-75X9405C** → £5,000 ★★★★★

This giant TV offers an irresistible blend of Ultra HD visuals and bassy, immersive audio made possible by the appealing Wedge design. Direct LED backlight provides nuanced contrast. *HCC #250*

**Samsung UE55JS8500** → £1,700 ★★★★★

While shorn of some of the features of the JS9500 flagship (most notably the full-spec One Connect box), this step-down HDR set still packs a picture-quality punch. *HCC #251*

**LG 65EF950V** → £3,700 ★★★★★

An OLED TV with a flat rather than curved screen has instant home cinema appeal. Typically involving UHD performance, but not without some uniformity issues. *HCC #256*

**Philips 40PFT6510** → £480 ★★★★★

This Ambilight-toting, Android smart TV shows that regular Full HD imagery can still impress, helped by Philips' efficient processing and direct LED illumination. *HCC #253*

**Panasonic TX-50CX680** → £650 ★★★★★

Impressive and affordable Ultra HD TV with a slinky desktop stand. Highlights include its assured upscaling, authentic colours and foolproof user experience. *HCC #257*

**Hisense 65XT910** → £2,300 ★★★★★

The Chinese marque throws down the UHD/HDR gauntlet to its better-known rivals with this big, well-priced, high-spec TV. Bright and clear images, but short on motion subtlety. *#257*

**Loewe Connect 55** → £2,800 ★★★★★

Superb video processing and onboard PVR functionality are the highlights of this 55in 4K screen, but the lack of UHD streaming services, and a clunky interface, disappoint. *HCC #249*

## TECH INFO: TELEVISIONS



**What? No plasma?:** The TV market is now dominated by LED-lit LCD screens. Manufacture and sale of plasma display panels (PDPs), which previously came into play above 42in, has ceased. With LED comes newer technologies. 4K models with a native resolution of 3,840 x 2,160 should at least be on your audition list if you're thinking of a new display; curved models are a consideration if you want to impress the neighbours. Look out for sets claiming support for HDR content, which is part of the forthcoming UHD Blu-ray spec.



**Active or Passive:** At the beginning of the 3D era, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. Some brands offer both Passive and Active models, depending on the panel used. Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on. The tech is still being worked on, though.

## TOP 5 Blu-ray movies

**Sicario**

Tense, tight 'war on drugs' thriller from rising star Denis Villeneuve with a classy cast and an addictive, precise Dolby Atmos soundtrack. The Blu-ray encode relishes Roger Deakins' smart cinematography, too.

★★★★★

**Crimson Peak**

Director Guillermo del Toro cooks up a spooky Gothic romance with the aid of some sensational set design and a spine-tingling DTS:X mix that proves a good intro to the format. Plenty of bonus features.

★★★★★

**Inside Out**

More the Pixar of *Up* than *Cars*, *Inside Out* is an emotionally-charged 'toon that's sure to raise tears as well as smiles. Both 7.1 audio and Full HD picture are rock-solid. Get the Steelbook edition for the best extras.

★★★★★

**Mad Max: Fury Road**

It's back to the outback in this action epic that mixes a lean narrative with astonishing set-pieces. The disc's Dolby Atmos soundtrack is a delight, and image quality is pin-sharp. Instant reference status!

★★★★★

**Mission: Impossible – Rogue Nation**

The latest *MI* instalment continues the fine work of *Ghost Protocol* and enjoys an immersive Dolby Atmos mix and sweetly-sharp Full HD encode on Paramount's Blu-ray.

★★★★★



## TOP 10 Blu-ray players

- 1**  **Oppo BDP-103D → £600 ★★★★★**  
 Oppo's first deck for two years was worth waiting for. The universal BDP-103EU featured a class-leading build and all manner of bonus goodies, including twin HDMI inputs. AV performance was faultless, and the onscreen menus superb. This newer model, the BDP-103D, adds Darbee Visual Presence processing for you to play with. *HCC #228*
- 2**  **Pioneer BDP-LX88 → £1,100 ★★★★★**  
 The Japanese corp returns to the disc-playing high-end with a universal deck that weighs more than your AVR and drips with user tweaks and processing features. Stonking performer. *HCC #246*
- 3**  **Oppo BDP-105D → £1,100 ★★★★★**  
 This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. *HCC #234*
- 4**  **Arcam FMJ UDP411 → £1,200 ★★★★★**  
 Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. *HCC #244*
- 5**  **Sony BDP-S7200 → £180 ★★★★★**  
 A Sony deck without the curious angular design, the BDP-S7200 offers SACD support, hi-res audio streaming and 4K upscaling that's worth investigation. Not too pricey, either. *HCC #239*
- 6**  **Cambridge Audio CXU → £900 ★★★★★**  
 Styled to match the brand's other CX components, this universal deck matches its audio and video chops with plenty of features, including Darbee and HDMI switching. *HCC #253*
- 7**  **Pioneer BDP-LX58 → £500 ★★★★★**  
 Short on 'net content and a bit slow in use, but these are minor complaints – this model (which ranks below the BDP-LX88) is a gorgeous, thoroughbred Blu-ray performer. *HCC #250*
- 8**  **Panasonic DMP-BDT700 → £400 ★★★★★**  
 Claiming THX-certified 4K upscaling and HDMI 2.0 60p passthrough, this mid-range deck from Panasonic is a good partner for a modern display. Great audio option, too. *HCC #237*
- 9**  **Samsung BD-J7500 → £150 ★★★★★**  
 This well-priced spinner offers twin HDMI outputs and multichannel phono audio for flexible system hookup, an appealing design, Smart features and solid AV chops. *HCC #247*
- 10**  **Panasonic DMP-BDT370 → £100 ★★★★★**  
 A solid deck at a great price, the DMP-BDT370 packs 4K scaling and JPEG playback into its full-width design. Let down by the dated Smart platform, although VOD options are good. *HCC #251*

### TECH INFO: BLU-RAY PLAYERS

**Matching your deck to your AV receiver:** Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D video/4K output signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

**What about the PlayStation?:** Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £150 PS3 Super Slim makes a decent choice – especially if you like playing games. Control via a joypad is a pain, though, and the console runs more noisily than most BD spinners. The more expensive PS4 is a much better gaming machine, and now available in a 1TB version.



### DEMO DELIGHT

**Tomorrowland:** The first flick released theatrically in the wide colour, HDR-toting Dolby Vision format, this bonkers sci-fi looks sumptuous on 1080p BD – colour saturation and detailing of the 2.20:1 encode is exemplary.

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Photo courtesy of Gary J.Fernandez Limited

## TOP 10 Projectors

**Sony VPL-VW520ES** → £8,800

★★★★★

The big daddy in Sony's domestic SXRD projector range, this couples native 4K optics with HDR compatibility for a state-of-the-art performance. Capable of jaw-dropping imagery and offers plenty of install flexibility. *HCC #254*

**Epson EH-LS10000** → £6,000 ★★★★★

Debuting a laser light source (30,000 hours) and Epson's 4K enhancement processing, this large chassis model is a cinematic triumph. Essential audition for a dedicated room. *HCC #247*

**Epson EH-TW7200** → £1,800 ★★★★★

Priced to appeal to those unable to dabble in the £3,000 market, Epson's mid-ranger is a great purchase. No frame interpolation on offer, but colours, contrast and brightness impress. *HCC #232*

**Optoma HD50** → £1,000 ★★★★★

With a retweaked user interface that improves upon previous Optoma light-cannons, the 12V-trigger-toting HD50 is a brilliant budget buy. *HCC #239*

**JVC DLA-X5000** → £4,000 ★★★★★

Fourth-gen eShift projector marries its pixel-shifting talents with a contrasty performance, HDR support and HDMI 2.0a. Not the smoothest with motion, and price tag is considerable. *HCC #257*

**BenQ W2000** → £800 ★★★★★

Average black-level performance limits this model's all-round appeal, but elsewhere this Full HD DLP budget PJ catches the eye with its calibration options and detailed visuals. *HCC #257*

**Optoma HD91+** → £3,500 ★★★★★

This LED/DLP Optoma claims a 20,000-hour lamp life. Setup features include a 1.9x zoom and image quality is generally excellent. Close in price to JVC's 4K eShift line, however. *HCC #252*

**Optoma HD28DSE** → £700 ★★★★★

Affordable Full HD model armed with Darbee Visual Presence processing, which certainly helps give images a boost if you set it up well. Average black levels, though. *HCC #254*

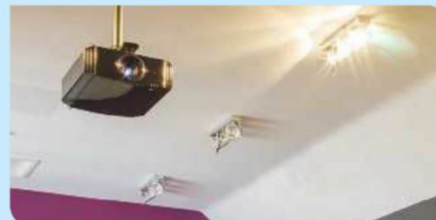
**Epson EH-TW5300** → £500 ★★★★★

1,920 x 1,080 (and 3D-ready) LCD projector offers dynamic, crisp visuals but runs a bit noisily and doesn't come with 3D spex. Plenty of calibration tools, but no lens shift. *HCC #256*

**Acer H6520BD** → £550 ★★★★★

Offering a Full HD resolution and ready for 3D, this budget beamer is a decent no-frills option. No lens shift, and zoom is pegged at 1.1x. Images are bright and well-contrasted. *HCC #252*

## TECH INFO: PROJECTORS



**Installation:** Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

**Throw distance:** Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

**Throw ratio:** Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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## TOP 10 Speakers


- 


**1 Monitor Audio Gold 300AV → £7,150 ★★★★★**  
 MA revamps its Gold Series and we pay serious attention. This big-ticket package excels across the frequency range, offers exquisite design and packs setup flexibility via the dipole/monopole FX surrounds. *HCC #251*
- 


**2 Q Acoustics 3000 5.1 Cinema Pack → £700 ★★★★★**  
 A superior compact package with driver improvements over the previous 2000i series. The two-way cabinets and dual-driver sub combine to offer impressive audio for the money. *HCC #247*
- 


**3 B&W 683 Theatre 5.1 → £2,750 ★★★★★**  
 The first step on the floorstanding ladder in B&W's speaker stable, the 600 Series incorporates new tweeter and bass driver designs and offers absurd value for money. *HCC #234*
- 


**4 KEF R Series 7.1 → £6,500 ★★★★★**  
 A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*
- 

**5 Monitor Audio Bronze B5 AV → £1,500 ★★★★★**  
 Like their Gold siblings, these feature switchable surround speakers and MA's C-CAM drivers. Smaller in stature and output, but eminently more affordable. *HCC #254*
- 

**6 Wharfedale Diamond 220 HCP → £850 ★★★★★**  
 This package offers a lot for less than a grand – two-way surrounds, a potent three-driver centre channel and agile subwoofer. Great movie sound and excellent build. *HCC #248*
- 

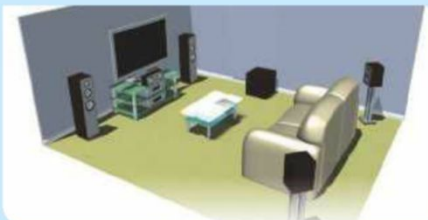
**7 Q Acoustics Concept 5.1 Cinema Pack → £1,750 ★★★★★**  
 Step-up Q Acoustics offering with handsome floorstanders joined by standmount surrounds employing the Concept Gelcore construction. Classy, consistently neutral performance. *HCC #257*
- 

**8 SVS Prime Satellite 5.1 → £1,000 ★★★★★**  
 These satellites are the smallest speakers from the US marque – but still sizable enough to deliver an impressive full-range performance. Quality subwoofer, too. *HCC #249*
- 

**9 Tannoy HTS-101XP → £700 ★★★★★**  
 A great sub/sat option. Tannoy's coaxial drivers excel at treble details; the new dual-driver subwoofer delivers the bottom end with gusto. Decent styling, too. *HCC #252*
- 

**10 JBL Arena 5.1 → £850 ★★★★★**  
 With horn-loaded tweeters derived from JBL's costlier packages, this floorstanding set doesn't skimp on impactful, dynamic thrills. Subwoofer is pretty basic. Solid sub-£1,000 array. *HCC #256*

## TECH INFO: SPEAKERS



**Centre speaker:** Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

**Front speakers:** Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

**Subwoofer:** Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

**Surrounds:** Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

## DEMO DELIGHT

**Mad Max: Fury Road:** This outback actioner comes complete with an inventive, detail-packed Dolby Atmos soundtrack that has to be heard to be believed. Music and atmospheric effects are regularly shunted into the height channels, the subwoofer puts in a serious shift, and object placement is remarkable. Play it loud!



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## TOP 10 AV Receivers/AV Processors

**Onkyo TX-NR3030** → £2,500

★★★★★

The current king of Atmos AVR, this 11-channel design enables four height speakers to be added to an existing 7.1 array with ease. Lithe on its feet and with exemplary steering, this is multichannel audio at its best. *HCC #245*

**Denon AVR-X7200WA** → £2,500 ★★★★★

Now upgraded to DTS:X, and sporting HDCP 2.2 support, this Atmos AVR is as futureproofed as it gets. Only a nine-channel design, though. *HCC #248*

**Arcam AVR850** → £4,200 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos (and future DTS:X) support with talented Dirac Live Room EQ. 11-channel pre-outs for full-fat setups. *HCC #257*

**Marantz AV8802A** → £3,350 ★★★★★

This 11.2-channel next-gen processor (Atmos, DTS-X and Auro-3D) is an obvious upgrade for a high-performance separates system. Luxuriant, natural sound quality. *HCC #253*

**Pioneer SC-LX89** → £2,100 ★★★★★

Controlled but lively-sounding 9.2-channel AVR (Atmos, DTS:X) that's packed with tweaks. MCACC calibration impresses, but the overall complexity here could be a turn off. *HCC #256*

**Marantz NR1606** → £600 ★★★★★

A slim receiver with a power output suited to smaller speakers/rooms (7 x 50W), this Marantz still offers Atmos/DTS:X, 4K support and hi-res audio playback. Lively performer. *HCC #254*

**Yamaha RX-A550** → £550 ★★★★★

Only a 5.1-channel model – and subsequently not endowed with Atmos/DTS:X chops – the RX-A550 impresses with its audio performance, design and networking features. *HCC #252*

**Cambridge Audio CXR120** → £1,500 ★★★★★

This Brit-designed 7.2-channel receiver focuses on performance and ignores object-based audio and built-in Bluetooth. Sound quality is assured and construction is monstrous. *HCC #251*

**Onkyo TX-RZ800** → £1,050 ★★★★★

Feature-packed (DTS:X, HDCP 2.2) and sporting a new, clean design, Onkyo's mid-priced nine-channel AVR is easy to use and sounds sprightly, if a little short on aggression. *HCC #253*

**Pioneer VSX-930** → £500 ★★★★★

Operation could be smoother, but there's no doubting this bargain-priced 7.2-channel AVR (with Dolby Atmos) when it comes to precise multichannel delivery. *HCC #249*

## TECH INFO: AV RECEIVERS



**Tackling new heights:** A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and DTS:X. Most AVR brands have pledged support for the latter; software is beginning to arrive.

**How much power?:** Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

## TOP 5 Bonus features

**Kingsman: The Secret Service Revealed**

A lengthy (92-minute) doc that is a must-watch for fans of the kinetic British comic book adaption, this looks back at the movie's origins and delves deep into its production.

★★★★★

**The Science of Interstellar**

From black holes to the search for planets that can support life, this engrossing 50-minute doc (narrated by Matthew McConaughey) explores the scientific rationale that lies at the heart of the recent sci-fi epic.

★★★★★

**Keepers of The Covenant: The Making of Exodus**

Another great *Making of...* doc supporting a Ridley Scott flick, this 153-minute, seven-part feature covers everything you could possibly want to know about the film's production.

★★★★★

**The Life, Legacy and Legend of Don Borchers**

Brilliant documentary addition to the *Children of the Corn* Trilogy boxset focusing on the career of producer Don Borchers. Stuffed with insight, humour and Hollywood tales.

★★★★★

**Talking Fast**

This 30-min interactive feature on the *Fast & Furious 7: Extended Edition* Blu-ray works well in place of a regular commentary. Motor-mouth director James Wan is a great host as he discusses key production aspects.

★★★★★



## TOP 10 Subwoofers

- 

**SVS SB-2000** → £600 ★★★★★  
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. *HCC #233*
- 

**REL 212SE** → £2,750 ★★★★★  
Lush design joins engineering nous in this premium sub with two active 12in drivers supported by a pair of passive radiators. Loud, deep and impactful, your BDs are in safe hands. *HCC #246*
- 

**JL Audio Fathom F212** → £5,900 ★★★★★  
The US brand arrives in the UK in style – this 2 x 12in, 3,000W brute not only looks gorgeous, it's capable of a mindblowing performance. Got a big room? Get one of these! *HCC #214*
- 

**REL S-5** → £1,600 ★★★★★  
A step up from REL's affordable T series, this 12in model is large and weighty, with a performance level to match. Fast and tight but capable of dropping very low indeed. *HCC #234*
- 

**Bowers & Wilkins PVID** → £1,200 ★★★★★  
One of the coolest-looking subs on the planet, B&W's PVID uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. *HCC #212*
- 

**Eclipse TD520SW** → £3,000 ★★★★★  
This twin 8in woofer, driven by ICEpower amplification, aims for ultimate speed and tone – and succeeds. Simply put, the TD520SW is worth every penny of its asking price. *HCC #249*
- 

**BK Electronics P12-300SB-DF** → £475 ★★★★★  
Bass heads can get outrageous value for money in the shape of BK's overperforming 12in sub. A front-firing model is also offered, and other finishes knock the ticket down to sub-£400. *HCC #247*
- 

**JL Audio E-Sub e112** → £2,050 ★★★★★  
This 12in, 1,500W model from JL Audio's 'entry-level' line seems pricey, but its performance, design and tuning options make the investment oh-so worthwhile. *HCC #240*
- 

**SVS PB-2000** → £750 ★★★★★  
The ported sibling to the SB-2000, this woofer uses the same driver and amp arrangement, but in a far larger cabinet. Bass goes deeper, but not at the expense of finesse. *HCC #243*
- 

**Artison Nano 1** → £800 ★★★★★  
Artison's media room-friendly woofer tucks twin 6.5in bass drivers and a 300W amp into its compact frame. Bass extension isn't the deepest, but this is tight, fast and heaps of fun. *HCC #253*

## TECH INFO: SPEAKERS



**Why use more than one sub?:** Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

## DEMO DELIGHT

**San Andreas:** This brilliantly over-the-top SFX-heavy disaster flick magicks up a scenario where both downtown Los Angeles and San Francisco (not to mention the Hoover Dam) are hit by mega earthquakes, and its Atmos mix is subsequently loaded with LFE. Buildings topple and pavements tear apart with real fear-inducing weight, keeping your sub on its toes for much of the 110-minute running time.

## TOP 5 Console games



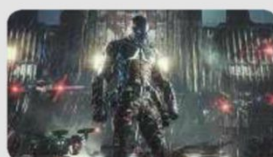
**Just Cause 3**  
More open-world japes from Avalanche Studios following the exploits of secret agent Rico Rodriguez. *Just Cause 3* is heaps of fun – playful and silly rather than serious – and scrubs up well on next-gen consoles.

★★★★★



**LEGO Marvel Avengers**  
The best platform/puzzler yet from the TT Games *LEGO...* franchise. Packed with your favourite Marvel characters, it takes plot queues from the blockbuster movies. Smart, funny and offers plenty of game-time.

★★★★★



**Batman Arkham Knight**  
The concluding part of Rocksteady's trilogy gives players an immense world to explore – everything here is bigger and better than before – and the moody, cinematic visuals are a treat for your display.

★★★★★



**Metal Gear Solid V: The Phantom Pain**  
Our pick for 'Game of the Year' in 2015, this open-world stealth/actioner dazzles with its breadth, interaction, flexibility and lush visuals. A fitting end to the legendary series.

★★★★★



**Transformers: Devastation**  
Forget the Michael Bay movie series, this action-packed *Transformers* game harks back to the 1980s 'toon series. As such, it looks lush, with its cel-shaded style igniting childhood memories. And it plays great too.

★★★★★

## TOP 10 Accessories

- 1 KEF R50 → £600 ★★★★★**  
 KEF's Dolby Atmos-enabled reflective modules are a smart choice for anyone looking to beef up their speaker system. Using the company's Uni-Q point source drivers pays real dividends, enabling full-range sonics that reach deep into your cinema room. Styling and build quality are first rate. £600 gets you a pair – you'll soon want four... *HCC #252*
- 2 Amazon Fire TV 4K → £80 ★★★★★**  
 Amazon reboots its media player to include 4K video prowess, greater storage capability and a souped-up engine. The result is an intuitive add-on that's ideal for 4K TV owners. *HCC #254*
- 3 Devolo dLAN 650 Triple+ starter pack → £120 ★★★★★**  
 This package makes Powerline networking fast (claimed at up to 600Mbps) and easy. The three-port Ethernet extender is sleekly designed, and provides a regular plug socket, too. *HCC #239*
- 4 Samsung WAM7500 → £500 ★★★★★**  
 Also known as the R7, this addition to Samsung's multiroom system delivers authentic omnidirectional sonics via its super-stylish oval-shaped enclosure. Expensive, but excellent. *HCC #253*
- 5 KEF Muo → £300 ★★★★★**  
 Portable Bluetooth speaker that's a cut above. KEF's sonic knowhow results in a punchy, dynamic presentation that cherishes lossless rips. Excellent build quality. *HCC #256*
- 6 QNAP HS-251 → £300 ★★★★★**  
 Adding HDMI connectivity to a NAS device is surprisingly useful – and this slim-line model from QNAP is styled to grace your living room. Flawless media playback and responsive. *HCC #248*
- 7 Now TV → £15 ★★★★★**  
 Among the new tricks of this second iteration of Sky's compact streamer are 1080p output, microSD and USB inputs and a faster processor. And it's still ridiculously affordable. *HCC #253*
- 8 Pioneer XDP-100R → £500 ★★★★★**  
 Android-based hi-res audio/video player that's ready for MQA files and sounds smooth and detailed. The 720 x 1,280 screen (4.7in) is up to the job with VOD apps and games. *HCC #256*
- 9 Sony SRS-X11 → £60 ★★★★★**  
 An affordable palm-sized Bluetooth speaker with internal rechargeable battery, Sony's SRS-X11 is supremely portable and sounds decent for the money. A neat little gizmo. *HCC #249*
- 10 Logitech Harmony Elite → £270 ★★★★★**  
 Flexible and relatively easy to set up, this all-in-one remote package combines touchscreen handset and hub with smart device app. Worthwhile if you have a stacked kit rack. *HCC #256*

## TECH INFO: MEDIA PLAYERS



**What about my TV?:** Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Toshiba and Sharp) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

**Storage:** You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

## TOP 5 Blu-ray/DVD boxsets

**Hellraiser: The Scarlet Box**

This set ignores the inferior DTV sequels to collect the first three movies in the Clive Barker horror franchise, and offers beautiful restorations plus plenty of in-depth bonus material. Limited to 5,000 copies – be quick!

★★★★★

**Agent Carter: The Complete First Season**

This eight-episode series was the best thing to come out of Marvel in 2015, with Hayley Atwell excelling as the titular agent fighting for the truth in post-War US. Solid AV, no extras.

★★★★★

**The Long Good Friday + Mona Lisa**

Two of Bob Hoskins' most iconic roles presented in an extras-packed boxset and given thoroughly impressive HD transfers – both look wonderfully filmic.

★★★★★

**Game of Thrones: The Complete Fifth Season**

HBO introduces Dolby Atmos soundmixes as standard to its latest *Game of Thrones* HD release. The result is a gripping fantasy show blessed with excellent AV credentials.

★★★★★


**Better Call Saul: Season One**


This spin-off from the award-winning *Breaking Bad* stands up well on its own, and this extras-packed BD release features superb 1080p visuals and DTS-HD 5.1 mixes.


★★★★★





## TOP 10 Soundbars & Soundbases


- 


**Yamaha YSP5600SW** → £1,900 ★★★★★  
 With its 46 drivers (including upfiring) this premium 'bar delivers precisely-steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*
- 


**Canton DM100** → £530 ★★★★★  
 An assured 2.1 performance delivered by an eight-strong array of separate tweeters, mid-range and bass drivers in a 1m enclosure. Suited to the large screens of today's 4K world. *HCC #253*
- 


**Sony HT-XT3** → £450 ★★★★★  
 A great-sounding soundbase blessed with HDMI connectivity, HDCP 2.2, Wi-Fi, Bluetooth, multiroom support, screen mirroring and app control. There's little to complain about. *HCC #250*
- 


**Yamaha YSP-2500** → £800 ★★★★★  
 An HDMI-switching 'sound projector' using Yamaha's Beam tech to craft impressive surround sonics from its drivers. Efficient sub, plenty of detailing and fun/useful app control. *HCC #243*
- 

**Cambridge Audio TV5** → £300 ★★★★★  
 Twin 6.5in bass drivers lend the TV5's sound some decent low-end heft, but not to the detriment of the rest of the soundstage. An enjoyable, balanced listen. Easy to use. *HCC #245*
- 

**Q Acoustics Media 4** → £330 ★★★★★  
 A no-nonsense offering from the speaker specialist, which ignores HDMI inputs and daft DSP modes in favour of creating a nuanced, solid 2.1 soundscape. *HCC #238*
- 

**NEW ENTRY**  
**Sony HT-RT5** → £500 ★★★★★  
 Sony joins the growing 'soundbar with wireless surrounds' market with an enjoyable debut that packs some worthwhile DSP modes and plenty of media-savvy functionality. *HCC #257*
- 

**DALI Kubik One** → £800 ★★★★★  
 The Danish speaker brand brings a slice of glamour to your setup with this stylish soundbar. No HDMI or digital decoding but it packs a tight, lively and nuanced sound. *HCC #248*
- 

**Philips Fidelio B5** → £600 ★★★★★  
 Detachable battery-powered side speakers let you enjoy both genuine surround sound and straight 2.1 (there's a wireless sub). And each speaker offers Bluetooth hookup. Innovative. *HCC #249*
- 

**Orbitsound A70** → £500 ★★★★★  
 Not overly specified – there's no HDMI, for instance – but this elegant 'bar/sub combi just about justifies its price tag with an enveloping and very well-balanced performance. *HCC #251*

## TECH INFO: TV PLATFORMS



### TV addicts – go free, or pay-to-view?:

The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

**Sky+HD:** The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. Hardware options include the 2TB dual-tuner PVR. An upgrade, dubbed Sky Q, is arriving soon, and will offer 4K support among its tricks.

**Virgin Media TiVo:** The cable giant offers a three-tuner PVR (1TB) with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

**Freeview:** Common option when it comes to TVs and STBs. Freeview offers 13 HD channels plus SD and radio. Freeview Play adds IPTV integration to the EPG – and you'll find it on some Panasonic TVs.

**Freesat:** Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered via a dish but without a subs cost. Budget-priced STBs are available.

**YouView:** This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

## TOP 5 Back-catalogue Blu-rays



### The Trip

Roger Corman directs, Jack Nicholson writes and Peter Fonda stars in this once-banned psychedelic cult classic. Signal One's BD release offers a surprisingly strong Full HD image and lots of bonus goodies.

★★★★★



### Blood and Black Lace

Mario Bava's genre-defining 1964 slasher makes its hi-def debut with a dazzling new 2K restoration that really gets the best out of the film's bold colour palette, alongside an exhaustive array of supplementary features.

★★★★★



### A Touch of Zen

A new addition to Eureka's Masters of Cinema label, this double-disc set (with an extras-packed DVD) delivers a sensational hi-def presentation of King Hu's 1971 three-hour-plus wuxia masterpiece.

★★★★★



### The Third Man

StudioCanal takes a second stab at releasing this celebrated 1949 Brit-noir starring Orson Welles, rewarding buyers with an excellent image taken from a 4K restoration plus some new documentary material.

★★★★★



### Beyond the Valley of the Dolls

20th Century Fox and Russ Meyer sounds like an odd pairing, but the result was this surrealist, music-laden oddity, now given lavish BD treatment – the 2K restoration is stunning.

★★★★★



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## TOP 5 PVRs



### Virgin Media TiVo, £subscription

This triple-tuner PVR offers ultimate recording flexibility, useful features – you can undelete deleted shows! – and awesome TiVo functionality. A no brainer if you're in a cable area

★★★★★



### Sky+HD, £subscription

Sky's channel choice is second-to-none and its twin tuner 2TB PVR is a perfect partner. The recent EPG tweak is welcome and Anytime (the push VOD service) is brilliant for catching up on new movies

★★★★★



### Humax HDR-1100S, £190

Freesat Freetime PVR that impresses with its usability, VOD options and form factor – Humax's small, white box will slot into any kit rack. We tested the 500GB version – 1TB and 2TB models are also available

★★★★★



### Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



### EE TV Smart Box, £subscription

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

## TOP 5 Headphones



### Sony MDR-HW700DS, £800

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★



### Oppo PM-1, £1,100

Audiophile-grade, using planar magnetic driver designs, and with a lush design and build. The sound quality of the PM-1s is superb, so while these are undoubtedly costly, buyers won't be disappointed

★★★★★



### Lindy Cromo NCX-100, £100

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★



### PSB M4U1, £220

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★



### Beyerdynamic T70, £330

Closed-back cans with excellent weight distribution for a comfy fit and a sound that doesn't put a foot wrong. These motor through movie soundtracks with vigour, clarity and a solid low-end

★★★★★

## TOP 5 Systems



### Panasonic SC-BTT505, £600

Two-way driver arrangements in these grown-up looking speakers (plus a dizzying range of features) make this a great purchase. Big, dynamic sound, with strong dialogue

★★★★★



### Samsung HT-J7750W, £800

Samsung's top-dog in its 2015 lineup is similarly styled and specc'd to last year's H series model. It has a powerful, dynamic sound, but is a little rough around the edges

★★★★★



### Harman/Kardon BDS470, £650

Harman's 2.1 system eschews 'net TV and streaming features, but majors in heavyweight build quality and solid AV performance. We tested a 2.1 iteration – 5.1 is also available

★★★★★



### LG BH8220B, £650

With its silver finish, this is a suitable one-box system to partner with LG's flatscreen TVs, with a commendable, if slightly lacking in HF finesse, sound. Additional features including CD-ripping to USB. Handy

★★★★★



### Onkyo HT-S7705, £650

This Atmos-capable AV receiver and speaker package is an ideal entry-level setup for a forward-looking system. Loaded with features (including Wi-Fi and Bluetooth). Just add a BD deck and you're sorted

★★★★★

# HOME CINEMA

Choice

## → IN THE NEXT ISSUE

**HDR TV** We tell you everything you need to know about the next-gen format

**Philips** Talking tech with the TV giant

**Demo delights** The best Blu-rays to test your system – revealed!

## → HARDWARE

**Panasonic DX900** Ultra HD Premium TV

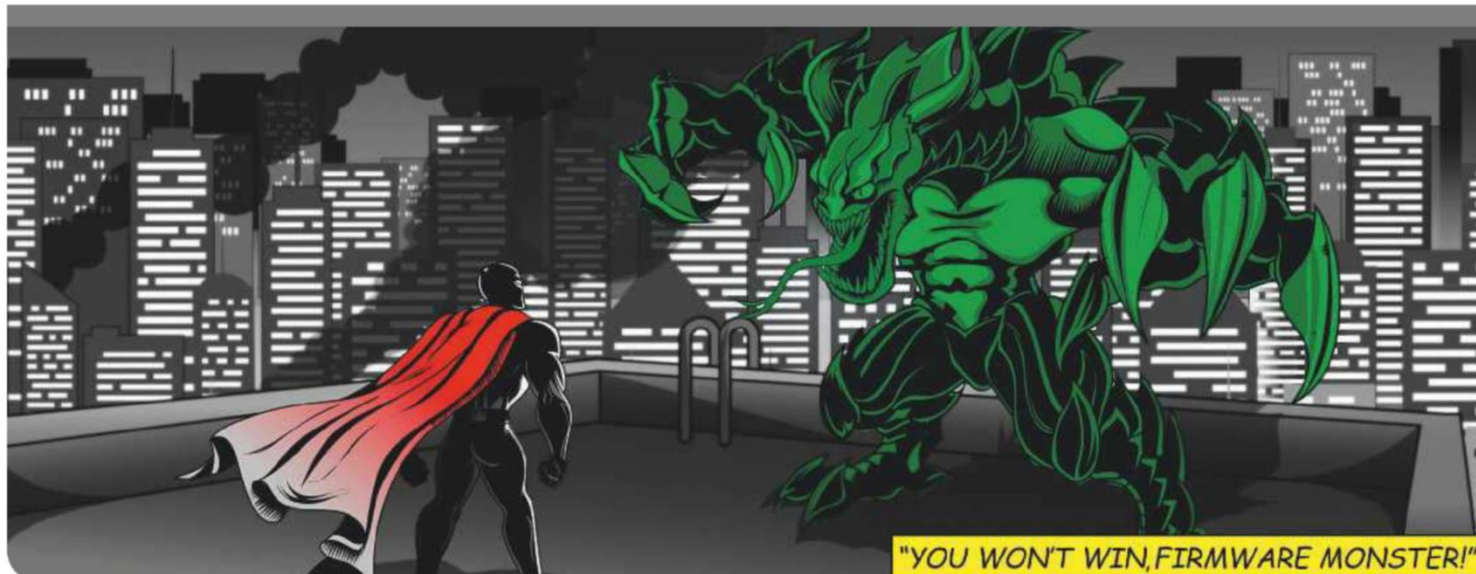
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CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER



# AV Avenger

What firmware updates give they can just as easily take away, warns **Steve May**, after witnessing some of the biggest electronics brands switching off their smart stuff

**GENERALLY SPEAKING, OUR** modern connected world is a good thing, particularly when it comes to electronic doodads. Back in the day, before the 'net, we would buy a gadget, happy to know that what it did when first unboxed would be what it would do forever (wear and tear notwithstanding) – play DVDs, amplify music, time an egg.

But things have changed. We now expect gear to evolve. In the age of the firmware upgrade, we take it for granted that new functionality can be poured into our durables. Want your AVR ready for tomorrow's high-tech codec? Don't worry, it's going to get a firmware upgrade, say the makers. Your new TV not HDR-capable? Pfft, it'll be upgraded before you know it. Firmware upgrades have become a universal panacea, patching, freshening and enhancing as required. Sure, they can be intrusive (Android TV launched with so many upgrades, actually trying to watch the telly became something of a challenge), but the practice has become transformative.

But what happens when firmware updates remove, rather than add, stuff? When those features you took for granted are switched off, removed or crippled? It's happening right now, and it's not pretty.

## Gone but not forgotten

Pity poor Philips Blu-ray/home theatre system owners who recently turned on their kit only to find that the smart feature set had gone AWOL. Without any notice, brand owner Gibson Innovations snuck into living rooms and torched the functionality. The move, which happened January 29, hobbled a variety of devices sold between 2010 and 2014. Users were confronted with a message ('To complete Smart TV sign-in, please switch your TV set off and on again') or a blank screen when they hit the 'Net TV' button. It's hard to imagine the service reappearing.

Samsung has similarly been pulling the rug from under connected TV functionality. If you bought a Smart Hub TV circa 2011, you'll already have spotted the signs of remote lobotomy. It first killed its integrated video store and music services; like Blockbuster, they became history. Then it turned off its On TV home page, a real slap in the face for users. This was the launcher for its Smart Hub service. It offered thumbnails of a swathe of popular channels, while a PIP window carried live TV – **for a while it looked like the future of TV guides**. But now this PIP window is all you get. The rest of the Smart Hub home screen is just a row of empty boxes. Thankfully apps still work, but for a smart TV it looks pretty stupid.

So while your LED panel will most likely live a long and fruitful life, it seems smart functionality is just a passing whimsy. Samsung lost interest in its first born when Tizen came along – despite selling shed loads of Smart Hub screens.

And just weeks ago, in what seems a surprising volte-face given its early evangelical zeal, it's even canned its Explore 3D content service. Such feature-felling makes the sporadic pre-programmed attempts of my trusty old Pioneer plasma to find a firmware update seem particularly pathetic.

Firmware degrading and service termination has become the modern equivalent of backing the wrong video tape format or opting for a games console that never gets the support it craves. I dare say other early smart devices have similarly been knobbled, but their owners are probably too embarrassed to talk about them. No one wants to admit that their once cutting-edge toy has gone the way of MySpace and Bebo.

The future, it seems, is far from proofed ■

*Do you use the smart features of your smart TV?  
Let us know: email [letters@homecinemachoice.com](mailto:letters@homecinemachoice.com)*

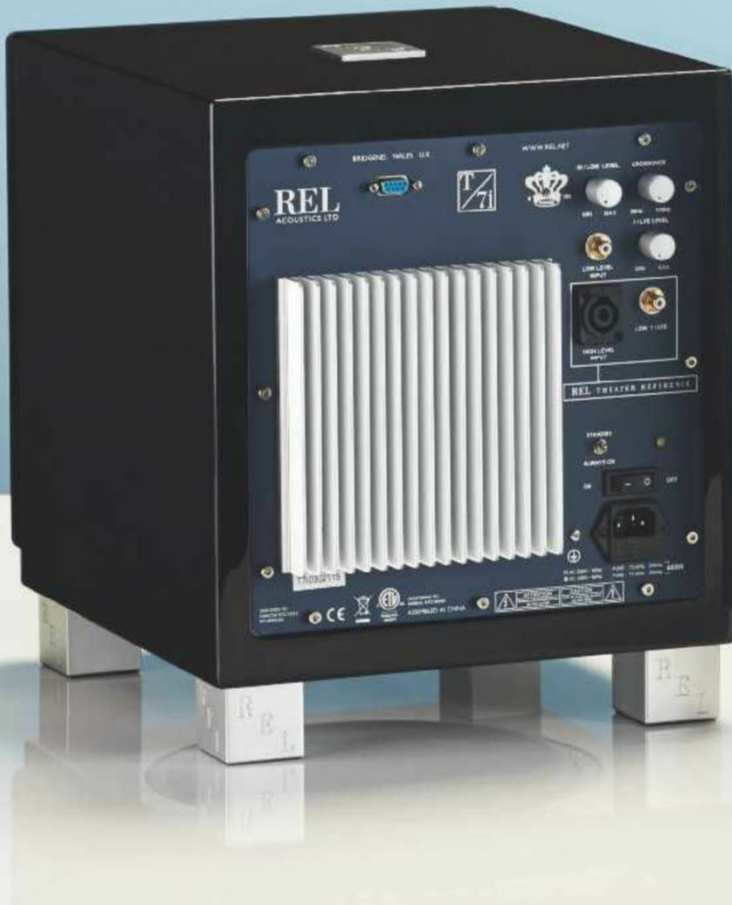
**Steve May** is aware that he wrote about firmware updates last year. He'll keep writing about them for as long as they keep annoying him







# SERIE T/i



T/7i (left) shows proprietary Arrow™ zero compression wireless connector upper corner.  
T/9i (right) features new Fiberall™ ultra-fast driver.

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